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Original Articles

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THE CENTRIFUGE CONCENTRATION OF MALARIA PLASMODIA FOR DIAGNOSTIC PURPOSES.*

By FOSTER M. JOHNS, M. D., New Orleans.

It has only been a few years since the great majority of laboratory workers were content to examine and diagnose malaria plasmodia with unstained cover-slip preparations. With the advent of polychrome staining methods it has been found that a great many active cases of malaria were being overlooked. Within very recent years our knowledge of some of the more obscure symptoms of chronic malaria and its complications has been considerably advanced. The majority of these cases so very closely simulate diseases of very unfavorable prognosis, such as pernicious anemia, chlorosis, splenic anemia, syphilis, etc., that the clinical diagnosis is often in doubt. A positive diagnosis of malaria in any one of these cases would mean everything to the patient. Often the number of demonstrable malaria parasites in the peripheral blood of such patients

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is so extremely small that one of the usual examinations will not reveal parasites. As a matter of fact it often takes two, three, four or five examinations, extending over a period of weeks to discover a single parasite. When the correct diagnosis is established, however, proper and specific treatment of the patient leads to cure of what was an apparently hopeless condition. With this class of cases the therapeutic method of diagnosis is most unreliable—the greatest number of cases taking months to efface the visible results of a disease that has lasted for many months; and without a certain diagnosis to begin with the treatment given for malaria is generally soon dropped.

The centrifuge method of concentrating malaria plasmodia for diagnostic or other purposes, as described by Dr. C. C. Bass and myself, has been employed now for more than four years.* While requiring some laboratory apparatus the method is just as simple as many routine laboratory examinations, such as the Widal or Wassermann reactions. One of our junior students has been able to make very useful application of the method in some of the wards of the Charity Hospital. For the class of cases in which it is especially useful even as complicated a test as the Wassermann reaction would certainly be well worth the time and trouble spent in its making.

Briefly the method is as folows:

1. Draw 10 c. c. blood.

2. Add 0.2 c. c. of a 50½ dextrose solution to prevent death or other changes in the parasites.

3. Defibrinate to prevent coagulation; or add 0.2 c. c. of a 50% solution of sodium citrate. When using the sodium citrate the blood platelets may be more or less troublesome to one not thoroughly familiar with malaria parasites.

4. Place half the blood in each of two centrifuge tubes and centrifuge until the cells have completely separated from the plasma, and the leucocytes have risen to the surface of the cell column. The plasmodia rise to the surface with the leucocytes.

5. Skim off about one c. c. from the top of the cell columns,

*Full details of this technic will be found in the article: A Method of Concentrating Malaria Plasmodia for Diagnostic and Other Purposes. C. C. Bass and F. M. Johns. The **Am. Jour. Trop. Dis. and Prevent. Med.** Vol. III, No. 5, Nov., 1915.

including the leucocyte layers. Place this into a smaller tube (diameter) and centrifuge as before.

6. Draw off the leucocyte layer carefully and make one or more blood spreads. Stain and examine.

In the best preparations made in this manner malaria plasmodia are concentrated about nine hundred times. Very small plasmodia just immediately after having entered red cells are not concentrated to the same extent. One should find nearly as many plasmodia in one minute spent examining such a preparation as he would in fifteen hours spent in examining the usual preparation of the same blood. In many instances in which after several hours of diligent search for plasmodia in ordinary preparations without finding any, a few minutes spent on centrifuge preparations of the same blood many plasmodia were found.

We believe this method of making preparations for examination will be found very useful in suitable cases. Among suitable cases may be mentioned those in which plasmodia are not found by the usual methods; those in which it is very important to exclude malaria from the diagnosis; those in which the number of plasmodia in the blood has been greatreduced by quinin treatment; and those cases in which it is desirable to make the most exclusive examination before final discharge from treatment. The value of the evidence of a cure as shown by negative findings with this method has yet to be absolutely determined by observations made upon a large number of cases nnder observation for a sufficient length of time.

DISCUSSION ON DR. JOHN'S PAPER.

The Chairman: Can I call on you, Dr. Elliott?

Dr. J. B. Elliott, Jr.: In the past five months, we have had several cases in my wards which were clinically malaria, but we could not demonstrate the plasdodium by any of the ordinary methods. In almost every one of these cases Drs. Bass and Johns were able to show plasmodia by their new plan of examination, so you can see what a great help it has been to the clinical man.

Dr. Allan Eustis: I am very much interested in this work, especially in the slides shown. Unfortunately, I came in late, and as I think it would bear repetition, I would appreciate it very much if you will give us, Doctor, a short resume of the technic, as I cannot

exactly understand the technic. I have had no clinical experience at all.

Dr. Johns (in closing): In answer to Dr. Walther's question I will say that we have not attempted the concentration of bacterial organisms. According to the technic by which these concentrations have been obtained the larger objects go to the bottom first, the next largest go to the bottom next, and so on. Continued centrifuging then causes the larger objects to rise, leaving the smallest elements (i. e., erythrocytes) at the bottom. Bacteria being very small would probably be forced clean to the bottom. As a rule the bacteria are so extremely few in number in the blood, as for instance in typhoid where there are only two or three per cubic centimeter, that the chances of mistake in making a diagnosis upon the finding of these few organisms would be very great.

Dr. Jamison's remarks would lead one to think that the technic was rather difficult. One of our medical students has made a number of successful concentrations without any previous special laboratory training.

In answer to Dr. Eustis I will only say at present that we have secured enough pure malaria plasmodia for the preparation of antigenic solutions. We are now engaged in the study of the various antibody and complement fixation tests. The results of these studies will be made the subject of a later communication. At present we can only say that certain immune bodies have been proven to exist in malarial blood sera.

INTRA-CAPSULAR FRACTURES OF THE FEMUR: A REVIEW OF HOSPITAL CASES WITH SUGGESTIONS AS TO DIAGNOSIS AND TREATMENT.*

By JAS. T. NIX, JR., B. Sc., M. D., New Orleans, La.

Intra-capsular is possibly not the most precise term to apply to these fractures, for, in many instances, the break is intra and extra capsular at the same time, on account of the irregular oblique attachment of the capsular ligament—the so-called mixed fracture. I have adopted this nomenclature, however, because it is the one most popular with the profession at large, because it has always been in use at the Charity Hospital, and, most important, because a fracture within the capsular ligament possesses certain advantages and disadvantages not found in the extra-capsular variety.

As a student of medicine, a hospital intern, and a young prac-

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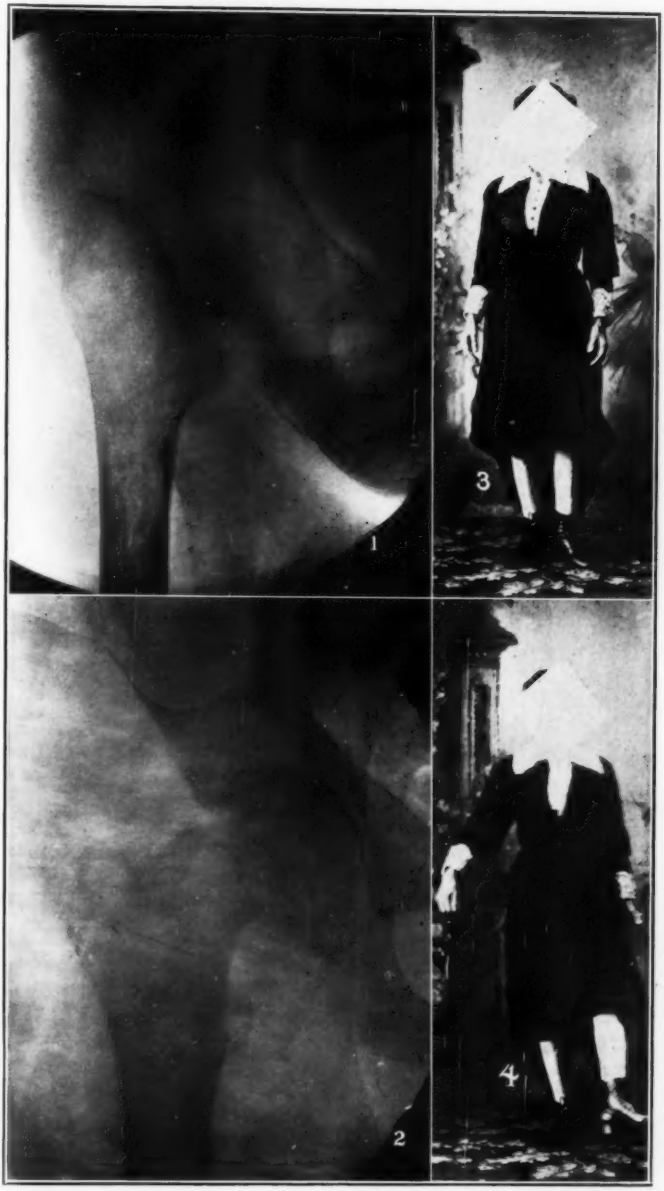

1. Mrs. J. T., 82 years old. Complete intra-capsular fracture of left femur.
2. E. M., 15 years old. Incomplete fracture of neck of femur with coxa vara deformity resulting.
3. Mrs. J. T., standing unaided eight months later, no apparent shortening.
4. Same. Left limb in abduction and flexion.

titioner, I always regarded the intra-capsular fracture as a most formidable injury, a sentence from the jury which sits on high, demanding immediate execution of "the terminal decree" or granting only a short reprieve. In the most favorable cases, treatment or no treatment, all to be hoped for was mere prolongation of life, little or no attention being directed to the correction of the deformity or establishment of a useful limb. Analysis of hospital cases, observation of the results at other clinics, and careful study of a few cases encountered in private practice, have convinced the author that death should seldom be expected, and in every case it should be the aim of the attending physician to restore the affected limb, as nearly as possible, to normal.

From April, 1905, to October, 1915, about ten and one-half years, the Charity Hospital records show 575 cases of simple fracture of the femur, 96 or 16.7% being the intra-capsular variety, about one case in every six.

It is comparatively rare in the negro race, there being only fourteen cases recorded or 14.5%. This can probably be explained by the fact that the negroes' bones as a rule are harder than the Caucasians' and are more accustomed to strain.

Sex seems to make no difference, there being only a slight increase on the side of males over females, the proportion 56 to 40.

The predisposing factors of most consequence are extremes of life, old age and youth, especially the former. Any condition of youth tending to retard development, or impose upon the bony framework a greater strain, or old age with its beginning rarefaction of bone, increase in lime salts, decrease in phosphates and diminished muscular and ligamentous tone, predispose toward all fractures, especially of the neck of the femur.

In analyzing the fractures by decades one finds up to 10 years of age none recorded; from 10 to 20 years, 7 fractures, the oldest being 15 years, the youngest 13 years; 20 to 30 years, the age of superlative physical development, one fracture. After 30 years a gradual increase until 70 years; from 30 to 40 years, 6 cases; 40 to 50 years, 7 cases; 50 to 60 years, 15 cases; 60 to 70 years, 29 cases. Now a gradual decrease, 70 to 80 years, 20 cases; 80 to 90 years, 8 cases; 90 to 100 years, 1 case. There is a total of 94 cases in whom the age is recorded. From this survey the most striking features are the comparative frequency

in adolescence, 7.4%; the practical rarity in mid-life, 1.06%, and the preponderance in old age, 91.54%.

There seems to be no predilection for either hip, a few more being found on the left side than on the right.

Direct causes should be classified according to the age of the patient. In the aged, a slight misstep or fall will cause the bone to snap, viz: tripping on a door sill, steps, or irregularity in sidewalk, quick movements as rising suddenly from a chair, falling down steps and alighting from street cars. In the young adult, a powerful blow is required to produce fracture. In youth, the bone is imperfectly developed, and sometimes slight accidents, like those of the first class are able to cause a fracture. Wrestling, jumping, and participating in outdoor sports usually precipitate the trouble, if it occurs at this age.

Treatment, the most important factor from the patients' standpoint, was the least improved on, the conventional sand bags and Buck's extension holding a prominent place among therapeutic measures today. No two surgeons seemed to agree on the best method of treatment, but in each service, a different outline was followed. If the patient survived and left the hospital alive, the usefulness and function of the limb were not investigated. Judging from all the histories I do not believe in one single instance was there any attempt made at complete reduction of the deformity and restoration of normal function. In several instances the records show that the affected limb was put up in a plaster spica, the limb being in complete abduction, but in only two or three at thte outside figure was a general anesthetic given and no mention is made of reduction of the deformity. In the great majority of these few cases which were put up in plaster, the cast was uncomfortable and had to be removed, Buck's extension being resorted to and applied in the same old way as it was thirty years ago.

The relative percentage in the choice of methods is as follows: Buck's extension 35.2%; plaster cast 29.8%; extension with cast at end of 6 weeks, 10%; Liston splint, 9%; Hodgins splint, 8%, and sand bags, 8%. From these statistics we see that Buck's extension was by far the favorite technic, although the best results seemed to be obtained from the cast.

From the standpoint of mortality, the results of the Charity Hospital compare most favorably with other institutions. Of

a total of 96 cases, only 15 died as a result of the injury, or its immediate complications, or 15.6% mortality, the cause of death being usually ascribed to traumatic delirium, hypostatic pneumonia, mental and surgical shock, nephritis and arterio-sclerosis.

The remarkable fact is that not one of the adolescent cases seemed to be very sick at any time, a few of them being able to walk, if assisted, immediately following the accident. The youngest death recorded was 56 years. Of the total 15 deaths, 14 were above 60 years of age, or 93.5%. Although 37.5% of all cases recorded were under 60 years of age, only one death is recorded during this period of life, or 6.7%. In this large percentage of cases, 37.5%, who, nothing otherwise complicating, are destined to live many years, complete restoration on the injured member to normal should always be attempted.

Thus, from a standpoint of mortality, treatment was most successful, but as regards restoration of contour and function, scarcely ever was anything attempted, consequently, the end results were very poor.

Having finished the review of these cases, before discussing them, let us recall a few salient points concerning the anatomy of the hip joint.

The antero-posterior diameter of the femoral neck is shorter than at any point in the shaft of the bone. To offset this, nature has thrown around the joint a powerful capsular ligament, which serves as a protection and acts as an antero-posterior splint. The periosteum at the neck of the femur is much thicker and tougher than at any place along the bone, and frequently we find fractures, especially in the young, when the periosteum is only partially or not at all lacerated and the fracture is subperiosteal.

The longitudinal fibers of the capsular ligament are prolonged anteriorly into the ilio-femoral ligament and serve as an anterior splint to the joint. The ligamentum teres, having little function in health, steadies the short end of the bone, when fractured, and renders apposition more perfect.

Diagnosis. In the old, it is usually easy, for we are on the lookout for such injuries, and immediately upon obtaining a history of sudden and complete disability of the hip joint, following the slightest injury, our diagnosis becomes fixed on intra-capsular fracture. There are some cases in whom there is no change

in the rotundity of the limb and function is only partially lost. An X-ray examination is the only positive diagnosis in these cases.

I recall a case which I saw in Boston in 1913. The patient was referred to the orthopedist for examination. The only abnormality found was pain, intensified by moving the joint, and a diagnosis of peri-arthritis of hip was made. X-ray examination showed a complete sub-periosteal fracture of the neck of the femur.

In youth do we find a preponderance of mistakes in diagnosis. Every such mistake at this age is an unpardonable surgical crime, for it excludes the patient from a sound and healthy limb, and usually makes of him a cripple for life.

I will cite a single instance of a patient called to my attention about eight months ago:

E. M., white, male, 15 years old, living at 2620 N. Tonti St. Family history, negative; previous history: In 1911, patient had typhoid fever, after which he became very fat in the space of about 6 months. Prior to that time his health was perfect. In October, 1913, he fell from a horse and hurt his left hip, being unable to walk for one week, after which time he walked with a decided limp. Condition rapidly grew worse until he was finally taken to the Charity Hospital for treatment. Limb was put up in Buck's extension, and a series of X-ray pictures taken with the idea of locating a tubercular focus. Patient was very fat and consequently pictures were very poor. Reports were always negative as to findings. Patient improved under extension treatment and left the hospital. About 9 months later, while in a moving picture show in Canal St., he slipped and fell on the right hip, causing severe pain, but he managed to get to the hospital. X-ray pictures were again taken, and in one instance, the interpretation stated "evidence of an old fracture." Extension was again applied and later a plaster cast. Patient improved and left the hospital. In every instance after entering the hospital tuberculosis of the hip was suspected and the X-ray reports would neither affirm nor deny. Tuberculin tests were applied, but in every instance they were negative. Shortly after this the patient was called to my attention and the following points of interest noted: An apparent perfect specimen of health, overly fat. He could scarcely walk for abduction on each side was completely lost, and both limbs were held in a position of extreme adduction with outward rotation and eversion of the feet. There was bilateral shortening making length of limbs about equal. A provisional diagnosis of coxa vara adolescens was made and further requests for X-rays. Some very good pictures were then obtained and the crippling deformity easily explained. The coxa vara on

each side was secondary to an unreduced fracture of the neck of the femur. No line of treatment in this case could do any appreciable good unless the following open operation were performed: a cuneiform osteotomy beneath the great trochanter, rotate inwardly the femur and put the limb in normal complete abduction in a plaster cast. Patient would not submit to an operation.

What I wish to emphasize is that this boy could have been entirely cured if the proper remedies were instituted at the time of injury, and the correct diagnosis made.

What should have been done for this boy, and, in my opinion, should be done in every intra-capsular fracture, where the patient is not too profoundly shocked, is the treatment advocated by Royal Whitman of the Ruptured and Crippled Hospital of New York, namely, treat the fracture consistently as you would a fracture in any other bone of the body, reduce, align and immobilize. Anesthetize the patient so as to relax the muscles and be able to work at ease. Place on pelvic support and apply perineal bar for counter extension. After having patient fully anesthetized and placed in position, the important points in the treatment are as follows:

1st. Slightly flex and rotate limb inward, elevating great trochanter.

2nd. Overcome shortening with forcible extension.

3rd. Abduct sound limb to its normal limit as a guide, then abduct injured side equally.

Now the fracture is reduced and the broken fragment aligned. Immobilize with a spica cast, including the foot, allow the cast to remain on for six to eight weeks, and do not permit patient to bear full body weight on limb for four to six months.

By the first principle of treatment you overcome the natural force of gravity which causes femur to drop and leg to rotate outward.

By the second you reduce the shortening, stretching the contracted pelvi-trochanteric muscles, and bringing the great trochanter down to Nelaton's line.

By the third you align the fragments, making tense the capsular ligament and holding the broken ends in the same plane, pulling on the ligamentum teres, steadies the head of the femur and makes taut the strong adductor muscles, in this wise keeping the broken ends approximated. Nature has provided the

joint with ample means of protection against injury, and in case of accident, these natural forces may be utilized to establish a cure.

During the past two years I have treated several patients by this method, and have obtained excellent results. I will relate one which I consider an extreme case where this technic was adopted and gave absolute satisfaction.

Mrs. J. T., 82 years old, born in Ireland, very active for her age. In August, 1915, while walking, she stumbled over a brick and was unable to rise. Pain was intense in the left hip from which patient could get no relief, no matter in what position the limb was placed. Leg and thigh of injured side were rotated outward, internal rotation being practically nil, and measurements elicited two inches shortening, the great trochanter being noticeably above Nelaton's line. A diagnosis of intra-capsular fracture of the left femur was made and later verified by X-ray. Patient was removed to Hotel Dieu, anesthetized with morphin-scopolamine, and the treatment as already outlined was applied in detail. The old lady is now able to walk without any support whatever, there is little or no shortening, and function is almost normal.

In Brief: One of every six fractures of the femur is of the intra-capsular variety.

It is rare in the negro.

Sex and the side on which the fracture occurs seem to offer no predisposing factors.

It is practically absent in childhood, common in adolescence, rare in the young adult, and frequent in old age.

The mortality is comparatively low and limited to advanced years.

Diagnosis is sometimes difficult and should, whenever possible, be verified by the X-ray.

Treat the fracture as a fracture, consistently and logically, viz, reduce by extension, align by abduction, and immobilize by fixation with a spica cast.

DISCUSSION ON DR. NIX'S PAPER.

Dr. H. B. Gessner: The treatment of Whitman is a very satisfactory one and it gives good results. I think we are indebted to the doctor for this interesting review of the Charity Hospital cases, and the statistics which he mentions. I have not anything to say except to add my favorable testimony to this treatment for fractures.

Dr. A. Granger called the attention of the Society to the distortion of the Rœntgen shadows due to faulty position of the patient and the possibility of errors in interpretation from that cause. He illustrated his remarks with two lantern slides made of the hip of the same individual, one when he was placed in the correct position and the other when placed in the faulty position invariably assumed by patients unless the operator is on the alert and corrects it; that is, lying more towards the affected hip and with the limb in external rotation. He pointed out the fact that in the second slide the shortened shadow of the femoral neck and the close proximity of the shadows of the femoral head and of the greater trochanter might easily lead to the mistaken diagnosis of intracapsular fracture of the neck of the femur with impaction. The larger than normal shadow of the lesser trochanter means always that the position of the patient was faulty and that his lower extremity was in external rotation. When the limb is in internal rotation the same shortening of the femoral neck usually takes place, but the shadow of the lesser trochanter is no longer visible.

Dr. Nix (in closing): There is one thing I would like to say. This treatment was first suggested by Dr. Whitman in 1900, and I was surprised, after reviewing the history at the hospital, that I didn't see one single instance where the treatment is applied. I saw several cases where they made use of the plaster cast with abduction, but there is no mention of correction of the deformity.

SYMPOSIUM ON DIPHTHERIA AND DIPHTHERIA CARRIERS.*

I.

CONTROL OF DIPHTHERIA IN PUBLIC SCHOOLS AND CULTURAL SURVEY OF NEWCOMB COLLEGE.

By EDMUND MOSS, M. D., New Orleans.

I am presenting for your consideration tonight, a recent survey of the pupils, teachers and employees of Newcomb College. This survey was made to determine what percentage were diphtheria carriers or were harboring, transiently it may be, the Klebs-Lœffler bacillus in the secretions of the nose or throat.

With the assistance of Dr. D. P. West and Dr. C. W. Duval and staff, cultures were taken as follows:

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Cultures taken	Total nose cultures	Total throat cultures	Total nose positive	Total throat positive	Total positive cultures
1220	610	610	32	16	48
		Controls			
254	127	127	..	..	..

Total cultures taken, nose and throat.....1474

Those cases proving positive were at once sent home with notifications of the conditions found. On the third day after the carrier was sent home, Dr. West, Dr. James Bethea and myself commenced taking control cultures and continued taking them every two days in each case, until two negatives were obtained. With the permission of Dr. W. T. O'Reilly, president of the City Board of Health, the houses of the carriers were not flagged, and I was permitted to discharge each case as soon as two negative cultures were obtained.

As each carrier was treated by her own physician, I do not know what methods were used in their treatment, but judging from the short length of time it took to clear up the situation, all the remedies used were satisfactory.

Least number of days required to clear up a carrier..... 4
Greatest number of days required to clear up a carrier....11
Average number of days required to clear up a carrier.....6½

The six cases treated by me received daily applications of 50% iodized phenol to throat and pharynx, and 20% argyrol dropped in nostrils at three-hour intervals. These cases all cleared up in from four to six days.

To my knowledge we have had no further trouble in Newcomb since this survey was completed.

My method of procedure in the public schools of the city, though open to criticism and far frrom perfect, is the best I can do when dealing with 45,000 children. When a school shows, from the daily reports received from the Board of Health, that three or more cases of the disease have occurred among the pupils, or if my map shows the district from which a school draws its pupils is becoming infected, a physician is detailed to examine the noses and throats of every pupil attending school, and cultures are taken of any nose or throat showing the least sign of irritation. All cultured pupils are excluded at once and only allowed to return after we receive a

negative report from the laboratory. Those proving positive are handled by the Board of Health, and treated as cases of diphtheria. Any school in which our cultures prove positive is visited every few days and the pupils re-examined until we fail to get positive cultures.

This method, as imperfect as it seems, has enabled us to keep the schools open and stamp out the neighborhood infection by gradually weeding out the carriers; whereas, in several instances where I have closed a school for one or more weeks, I found that the disease not only did not disappear, but when the school was re-opened, I had more cases than before closing.

The following will give you some idea of the method used in individual schools:

Howard School No. 1— Date	Number of cultures taken	Negative	Positive
September 21, 1915	4	4	..
October 12, 1915	3	1	2
October 15, 1915	2	2	..
October 19, 1915	2	2	..
December 21, 1915	42	23	19
December 23, 1915	22	18	4
January 3, 1916	23	18	5
January 7, 1916	9	7	2
	107	75	32

Kruttschnitt School— Date	Number of cultures taken	Negative	Positive
December 23, 1915	12	5	7
January 3, 1916	11	10	1
January 5, 1916	3	1	2
February 18, 1916	9	9	..
	35	25	10

Session 1914-1915—

Total number of noses and throats examined	147,932
Total number of cultures taken	1,256
Number of cultures proving negative	1,014
Number of cultures proving positive	242

Session 1915-1916—

Total number of noses and throats examined	98,981
Total number of cultures taken	667
Number of cultures proving negative	534
Number of cultures proving positive	133

On this date, March 27, there are only eighteen active cases of diphtheria among the public school pupils of New Orleans.

My conclusions are—that in a threatened outbreak of this disease, the city schools should not be closed, but if put under proper medical supervision they may be kept open and instead of spreading, will help to stamp out the disease.

My object in the above is to show how important is the eradication of the carrier in any community, as I believe in all of our outbreaks the carrier is the chief offender. I also hope that the discussion which is to follow the above, will bring forward some specific for the clearing up of diphtheria carriers.

II.

CULTURAL SURVEY OF TULANE UNIVERSITY.

By W. A. LOVE, M. D., New Orleans.

This paper, as presented tonight, is not intended to be a scientific discourse upon diphtheria and the carriers of that disease, but is a report of the actual findings in a recent cultural survey of the several departments of Tulane University. In presenting the facts of this survey, we merely wish to give to the society our results and to beg the privilege of making a few observations. We hope that the discussion will furnish the interesting portion of the program of the evening and the real benefit to be derived from a symposium such as this.

Just how much good has been accomplished by this survey, from the standpoint of prophylaxis, is a matter of opinion, but we believe that our data is valuable and has been sufficiently extensive as to the numbers of men and women examined, to make a good statistical exhibit upon which to base opinions and deductions.

During the fall of last year, the rather widespread prevalence of diphtheria in the city made it expedient that cultural controls be made of Tulane and Newcomb Colleges, and this work was undertaken by the Department of Bacteriology of Tulane University, acting in co-operation with the medical officers of the two institutions.

Permit me to make a report of our findings and to make a few observations that came to our minds as a result of the investigation and the subsequent treatment of the carriers found.

This survey was made to ascertain the true number of infected cases among the students, faculty and employees of the university, and was as complete as it could be made. Some few were not cultured for one reason or another, but the 716 cases examined gave us good data as to the degree of infection that might exist unsuspected in so large a body of persons.

Total number of cases examined	**716**
Total number positive for Diphtheria—	
Nasal	**88**
Throat	**33**
Total positive cultures	**121**
Cases showing both nose and throat positive	**9**
Total of infected cases	**112**

As carriers of the disease there can be no great difference, from the standpoint of danger to the public health, in the nose and the throat carrier and we see that there were found 112 cases positive among 716 examined, or a percentage of about 15½%.

We will not raise the issue as to how serious this situation was as a like ratio of infection probably existed throughout the entire community, but will try to report those things of statistical and clinical interest that came to light as we cleared up our carriers.

The medical officer of the university was furnished sufficient help to handle the situation, and with the advice of Dr. Lynch and of Dr. Duval and his associates, active steps were taken to isolate and investigate each infected case. The City Board of Health very kindly allowed us to act as their deputies in handling the details of the quarantine.

With the assistance of six of the younger members of the medical faculty, daily cultures were made of all cases and a routine of nasal and laryngeal antisepsis was carried out. Thirty-three and one-third per cent peroxide of hydrogen gargle, and 15% argyrol in the nose was the measure adopted, and the cases that we will term "accidental" carriers cleared up readily without further treatment. Statistically, the time necessary to produce results with these "accidental" carriers,' was as follows:

Negative after two cultures (taken on successive days):	
Nasal	62
Throat	13
Negative after three cultures:	
Nasal	5
Throat	5
Negative after four cultures:	
Nasal	10
Throat	5
Negative after five cultures:	
Nasal	2
Throat	1
Negative after six cultures:	
Nasal	2
Throat	0
Total of accidental carriers	105

Cultures were taken daily from the nose and throat of the above cases; no clinical manifestations of diphtheria were present, and no treatment other than the local applications was given, except that four of the cases showed at original examination such virulent cultures of diphtheria that it was thought best to give them prophylactic injections of 10,000 units of anti-diphtheria serum, for their own protection.

Seven cases persisted positive after one week of active local treatment, and we felt justified in considering these as true carriers. As such they were reported to the City Health Board and were placed under rigorous quarantine and more strenuous measures adopted to rid them of the infection. These cases had shown positive cultures from secretion and throat swabs made from freshly gargled throats and from nasal puddles of argyrol.

As we had anticipated some true and persistent carriers from our army of infected, Dr. Lanford had selected some of the more virulent cultures from our stock that had accumulated during the survey and had prepared a sufficient quantity of autogenous vaccin to use for the treatment of these cases. Additional nasal and throat treatment, that will be detailed by Dr. Lynch, was used in conjunction with the vaccin treatment.

Of the seven persistent carriers, three showed infections of both the nose and throat, while four were nasal infections alone. The same vaccin treatment was applied to all.

The initial dose of vaccin was 100,000,000 killed bacteria;
2nd day, 250,000,000;
3rd day, 500,000,000;
4th day, 500,000,000;
5th and subsequent days, 1 billion.

The cases reacted as follows:

One case cleared on the 11th day of local treatment and on the 4th day of vaccin treatment.

Four cases cleared on the 12th day of local treatment and on the 5th day of vaccin treatment.

One case cleared on the 14th day of local and on the 7th day of vaccin treatment.

One case persisted until the 31st day of local treatment and the 24th day of vaccin treatment.

N. B. This last case had in all four injections of 1 billion killed bacteria in addition to the smaller preliminary injections. He was treated incidentally by Dr. Lynch, who can give us some idea of the peculiar persistency of the infection.

Having reviewed the survey as carried out, there are several points of interest that were noted:

The infected cases were practically all free from throat discomfort, few were suffering from any kind of nasal discharge and all professed to be in the best of health.

Of the seven true carriers, three showed a slight rise (about 1 degree) of temperature; two complained of headache; one showed an elevation of blood pressure and a marked acceleration of pulse rate. There was no loss of appetite, for which I can vouch, as five of these carriers were quarantined in the Tulane Infirmary, and were capable of consuming double rations.

The injections of vaccin, even in the massive doses, caused no local or constitutional reaction when given daily to the true carriers.

Cultural accuracy, in the true carriers, was not affected by taking of cultures from recently disinfected mucous membranes, as evidenced by the persistency of the positive findings in the true carrier cases. These men were anxious to escape frrom quarantine, and kept a careful lookout for the man with the culture tubes, and at his approach to the infirmary, would deluge nose and throat with all of the antiseptics at hand.

Finally, the observation that seems of the most importance. We must realize that it is only by raising the individual im-

munity of the carrier by the use of vaccins, and those vaccins preferably of the autogenous variety, that we can clear up our chronically infected diphtheritics.

In closing, the reporter wishes to express the hope that this and the report of Dr. Moss will furnish a basis for a discussion that will help all of us to a clearer understanding of the diphtheria carrier, and I wish personally to say that although there is a diversity of opinion as to whether or no any good has been accomplished by these surveys, they have helped me to understand in a small way what should be tried to help the carrier of the diphtheria organism.

III.

CLINICAL ASPECTS OF DIPHTHERIA.

By R. CLYDE LYNCH, M. D., New Orleans.

I occupy rather an unusual position in this program, being called upon to discuss the clinical side of diphtheria, when the main papers concern the procedures adopted for the control of epidemics or outbreaks in places of congregation, schools, asylums and the like.

I have no idea in outlining a definite plan of treatment as a suggestion for you to follow; on the contrary, I feel your better fitness, as men of general clinical practice, to outline for me a routine. What I have in mind is to make such statements, ask such questions and possibly venture a suggestion that may bring from you such a discussion as to make clear for all of us the why and wherefore for our clinical practice.

Diphtheria is primarily a local disease, exerting its harmful influences by the production of toxin generated by the organism causing the diphtheritic process, this toxin circulates in the blood and later finds its way into the tissue fluids and finally becomes attached to the cells. According to Ehrlich this toxic element is made up of three substances, toxoid, toxin, and toxone. The first is harmless, the second gives rise to the local and acute symptoms, the last having a selective affinity for the nerve tissue. It is also stated by Krauss that these cells that have taken up toxin will give it up if the surrounding fluid is free from toxin or contains antitoxin.

We have the reasons for a large single initial does fairly well founded. Sufficient should be given to neutralize all toxin in

the blood stream, with sufficient left to press on into the tissues and around the cells that we may not only have a rapid subsidence in the gross clinical manifestations, but also to prevent the selective action of the toxone element on nerve tissue and thus avoid the disastrous secondary complications.

The dose should be given routinely intramusculary because of the abundant proof of its more rapid absorption into the blood stream, being ten times faster than the subcutaneous method. At the same time there is less local reaction and discomfort. I select the buttocks always and give the dose as deep as the needle will permit, there follows no surface soreness or redness and the patients may turn as they choose in bed.

In the very serious or malignant cases the dose should be given intravenously, this route being about 100 times faster than by the subcutaneous method and requiring about one-twentieth the quantity to produce the same effect. Besson reports 200 cases treated by this means without a single death. I have used it six times and obtained a very marked and rapid relief in five, the sixth dying five hours after injection from a cardiac dilation and not due, so far as I know, to the method of injection. I trust you will discuss this phase of the treatment, as it seems very important that we have standard information upon this point.

If one remembers that it takes from 48 to 72 hours from the time of injection subcutaneously until the greatest concentration of antitoxin element is in the blood, one sees the justification for the intramuscular and intravenous routes over the subcutaneous, as is now usually employed, especially in the more serious and malignant cases. This offers the explanation for not repeating the dose under six or twelve hours, and a plea again for one initial curative dose and why some advocate a moderate dose and wait from two to four days before its repetition.

How may we combat the effect of the serum on the body cells in those for some reason susceptible to this action? Kolmer maintains that serum sickness is a true anaphylactic reaction delayed for a period from 36 hours to 16 days. Those who manifest sensitization by asthma, hay fever and urticarial symptoms, when around stables or horses, should be given serum with the greatest caution. Anti-anaphylaxis may be produced by the in-

jection of ½ c. c. of serum four or five hours before the medicinal dose; when this latter is administered it should be accompanied by atropin and caffein to protect against respiratory depression. The injection should be made according to the technic suggested by Bass, namely, subcutaneously, in an extremity below an applied, though not tightened, constrictor, and at least a half hour by the clock taken to complete the injection.

Horse serum is proteid element and the poison, a proteid poison, the symptoms of which resemble an acid toxemia. With this idea I have for the past two years put my patients on a proteid free diet for at least ten days following the injection: have alkalinized them by the administration of sodium bicarbonate and sodium citrate and magnesium oxide (milk of magnesia) and have administered formalin which seems to counteract nicely the late anaphylactic symptoms. In many cases even where serum has been administered for some previous condition, this plan has worked beautifully, and I suggest it to you for trial.

Antitoxin neutralizes the toxin only and has no effect on the organism; in fact, they may thrive during the period of a large dose of antitoxin.

What can we do for retained bacteria cases and carriers? Many will yield to simple local antiseptic gargles and sprays of peroxide, formalin, antipyrin, salol, alcohol, permanganate of zinc, staphylococcus suspensions, lactic acid and buttermilk; this last I urge you to try. It is simple, bland and can be used every half hour as a nasal douche and gargle. By local applications, silver nitrate, argyrol, resorcin in alcohol, iodin phenol, ichthyol, trikresol, kaolin; the number of the suggestions speaks for their uncertainty.

Vaccin or suspension of dead bacteria, gives usually, the best results and I refer you to the work of Dr. Arthur Weil of this city, in this respect (NEW ORLEANS MEDICAL AND SURGICAL JOURNAL, November, 1914. Transaction A. L. R. & O. Society, 1914).

Tonsillectomy will finally remove the source of supply, and so far, I have not seen or read of a failure and have had no bad results.

In the control of outbreaks of diphtheria in asylums, schools, jails and the like we have in Schick's test for immunity a most valuable aid. One fiftieth of the minnimum lethal dose of diphtheria toxin for a 250 grain guinea pig, brought up in bulk to

0.2 c. c., injected intradermically will produce a definite local reaction in those who are susceptible to the disease. This at once separates the inmates into non-susceptible and susceptible cases; the former, if culturally negative, need no attention; the latter, if exposed, should be immunized by the injection of 1,000 units of antitoxin injection, which will confer immunity from two to four weeks, then can give Von Behring's toxin antitoxin injection, which will confer immunity from two years to life.

Do you believe the same plan should be followed in families? On account of anaphylaxis I have thought for the past three years that it was not best to advertise immunizing doses be given, unless it were possible to secure some other media than horse serum. Our producers of antitoxin would do well to prepare immunizing antitoxin from sheep, cows or such, then should there be later need for medicinal doses one could be safe in employing horse antitoxin . Will you discuss this point?

If the injection of Von Behring's toxin antitoxin with 1,000,000,000 killed diphtheria bacteria will confer immunity for two years to life, would it not be a Godsend to demand of every school child this certificate before his entrance into school, just as is nw done in the matter of vaccination for smallpox? A negative Schick or a Von Behring confering immunity would limit our diphtheria to but a few cases.

DISCUSSION ON SYMPOSIUM ON DIPHTHERIA.

Dr. Homer Dupuy: The vaccin therapy seemed to be the only rift in the clouds which promised results. In ward 48 of the Charity Hospital, where I have tried it, it has not proven successful. We should differentiate between active diphtheria carriers, those who have actually had the disease, and passive carriers, those who have never had the disease, but whose noses, throats, or nasal sinuses carry the organisms and from which they may be transferred to others.

I wish to emphasize that I have seen children who, having had diphtheria four years ago and who after presenting negative cultures, have become passive carriers.

I was among the first in the Charity Hospital to use iodized phenol in the treatment of diphtheria carriers. My best results have been obtained by the application, three times a day, of a solution containing 60 drops of iodized phenol to one ounce of glycerin. This is to be applied freely on the tonsils and pharyngeal wall by the nurse or some trained assistant. We can repeat it with impunity as it induces no severe reaction. The pure iodized phenol applications

have been tried and discarded by me as being entirely too severe in reaction.

I have removed faucial and pharyngeal tonsils in passive carriers with no untoward results, but in the nasal carriers we are handicapped at the very start by the nasal accessory cavities. How are we going to reach the bacilli which must, in many cases, get into the sinuses? These cavities are inaccessible to applications of drugs, and surgical measures would not be justifiable. We, therefore, look to a perfected vaccin therapy in our future fight relative to the nasal carriers.

Dr. J. P. O'Kelley: My daughter was kept from Newcomb some time ago for 10 or 12 days on account of being a carrier. Cultures were made every other day. The last time, I made a culture in the morning and some one from the university made one in the afternoon; mine was examined by Dr. Bass and found positive, while the one taken in the afternoon was reported as negative. Of course I let it go at that and she was allowed to return to school. This illustrates the variability of positive and negative cultures. I would like to ask if there is any difference in the virulence of the two kinds of carriers, active and passive? I would also like to bring out discussion as to whether we should recommend the giving of antitoxin before we have a positive culture. In many cases of apparently follicular tonsilitis, we later find a positive culture; while on the other hand, cases we consider almost positively diphtheria return a negative culture. If I felt certain that the case was one of diphtheria, I would certainly give the antitoxin. I want to condemn the giving of antitoxin just as soon as the case is seen, unless the condition of the patient warrants it. With the improved methods at the disposal of the bacteriologist, a few hours delay does no harm. When we decide to give antitoxin, let the dose be large enough to destroy the trouble and let us not have to repeat the dose.

Dr. Arthur I. Weil: This subject is so wide and extensive, and there will doubtless be so large an amount of discussion, that I shall take but a few minutes in discussing the papers just read.

Of especial importance is the Schick test, by means of which we can separate the immune from the non-immune. In connection with this test an important feature is the toxin-antitoxin immunization method of Von Behring, by which the Schick positive cases can be immunized. By Von Behring's method we can confer an immunity which, although it develops slowly, not reaching its maximum until six months after the injection of the material, will last, according to the claims made for it, from two years to life. It has the added advantage of freedom from the dangers of anaphalaxis. This treatment, it seems to me, would be of especial value in immunizing inmates of institutions such as orphan asylums, schools, etc., because their period of immunization would outlast their residence in the institutions and if applied to all the non-immunes as deter-

mined by the Schick test would practically obviate the danger of an epidemic in such institutions.

The treatment of diphtheria carriers has been a difficult and unsatisfactory problem. The various sprays and applications of formalin, iodized-phenol, staphylococcus cultures, etc., are so numerous as to prove their lack of specific virtue. It is well known that diphtheria carriers are often nasal carriers and it is difficult to reach small niduses or the accessory nasal sinuses where the bacteria are often harbored. With the Coffin apparatus, medicated vapors may be injected into the nose and sinuses under pressure.

Of the cases which I have treated with vaccins quite a number were real carriers. Without any local treatment they were treated with stock diphtheria vaccins and later a diphtheria vaccin made from the most virulent of the carriers. They were given increasing doses of from forty to fifteen hundred million of the dead bacteria. The local reaction was slight. They all cleared up in from three to eight weeks after treatment was begun. How much of this result was due to the vaccins I cannot say. The value of the method, I believe, is still in doubt, but in view of its complete harmlessness and in the lack of a better method, I think it worthy of further trial.

In one later case I did a tonsillectomy instead of using vaccins. The surprising feature of this case was that after removal of the tonsils, scrapings and some of the expressed juice from deep in the tonsillar crypts gave a negative culture, though the throat had just before been positive. The throat promptly cleared up after the operation.

Dr. Allan Eustis: The question of control of diphtheria epidemics has been of especial interest to me ever since my association with an outbreak at Newcomb College, three years ago.

Until cultures were made from each inmate of the dormitories we were unable to control same. Two positive cultures were found in girls with "colds in the head," but with no other active symptoms, and as soon as they were segregated we had no further cases. I would strongly urge upon the general practitioner the necessity of taking cultures from each inmate of a home in which a case of diphtheria is seen. This is well exemplified in a family seen recently by me. One boy, sixteen years old, for whom I was called had a typical case of diphtheria, and cultures were made from the other members of the family. Positive cultures were obtained from his two sisters eighteen and twelve respectively, although at the time there were no evidences of any infection in their throats. The youngest child had been seen by Dr. Lynch the same afternoon. She at no time had more than a minute spot on one tonsil, but she was the last one to become negative, running positives for thirty-six days. We used injections of sensitized bacterins apparently with prompt relief. In closing I would ask Dr. Seeman to give us his opinion of the efficacy of fumigation in controlling diphtheria.

Dr. Love (in closing): There is little to add to the discussion. There has been one case at Tulane since the survey was made of Tulane and Newcomb colleges. This case lived in the same house with an accidental carrier which we had previously isolated.

Dr. Lynch (in closing): Text books tell us there are 20 varieties of pseudo-diphtheria organisms. Is it possible to differentiate these positively by microscopic and cultural tests?

In reply to Dr. Seeman, I would say, absolutely I use this then as a reply to Dr. O'Kelley's question relative to the administration of antitoxin in questionable cases. My own opinion is where the clinical evidence is reasonably positive, antitoxin should be given regardless of culture.

I would like to know if the laboratory has material for the Schick test.

Dr. Seeman: Yes.

Replying to Dr. Eustis: If anaphylaxis is developed after such small doses, is not the use of Von Behring's toxin antitoxin injection somewhat dangerous?

In England nasal diphtheria seems to be a very serious infection, while with us, it is quite moderate in fact; the remarks of Dr. Dupuy are self-evident of this fact. The Schick test is of value from the standpoint of the patient's immunity only, and not as a control against the community, for a negative Schick may be a positive carrier.

In reply to the question have cases of diphtheria been traced to carrier, I relate the history of a doctor's family where four cases of diphtheria developed from the carrier (the mother) who was isolated, and on securing a negative culture from her throat there has since developed no cases in the family.

Concerning the intravenous injection of antitoxin—it is given from the original package as received from the manufacturer, placing the syringe in water at body temperature.

In the cases of carriers, or those with retained organisms in the throat, where these are definitely determined to be in the tonsils, tonsillectomy has given a positive cure every time.

ACIDOSIS.*

By O. W. COSBY, M. D., Monroe, La.

It is common knowledge that the blood absorbs oxygen from the alveolar air and gives off carbon dioxide. This exchange of gases is uninfluenced by pressure from within or without, as has been proven by Howell and others, but is influenced entirely by an active principle secreted by the adrenals, which has been termed, adrenoxidase or adrenin.

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The severe and fatal symptoms of carbon-dioxide poisoning, cyanosis, dyspnea, convulsions, etc., that follow removal of the adrenals, is our best example of rapid death from sub-oxidation. The symptoms of disease of the adrenals, which are more or less gradual, are those chiefly evidencing a gradual destruction of the hemoglobin with the coloring matter deposited in the tissues, giving to the skin its bronzing, with general weakness, and other features of Addison's disease, which Brown-Sequard has so well demonstrated to be a disease of the adrenals. This is clearly a slow process of sub-oxidation.

Within the last few years the intimate association of the thyroid and pituitary with adrenal functions has been clearly demonstrated. A disease of these glands giving corresponding disturbance in adrenal functions vary in accordance with the disturbing factor.

Reasoning from the above we may clearly state that the adrenal glands, governed, or at least influenced, by the thyroid and pituitary, secrete into the blood something which lends to the hemoglobin its affinity for oxygen. This substance is called by Sajous adrenoxidase, by Crile adrenin.

Metabolism is the process by which tissues take up and utilize food, water and oxygen and throw off those complex and highly toxic compounds called nuclein bases, i. e., xanthin, hypoxanthin, amino and diamino acids; in other words, acid biproducts. These products, together with the products of digestion, find their way to the portal circulation, and are there oxidized and reduced to the simple and non toxic and easily eliminated urea, phosphates, chlorides, sulphates, creatin and creatinin. Now when these compounds are not oxidized properly, the organism is poisoned, more or less, according to the degree of suboxidation, and the resulting symptoms are in exact proportion to the amount of intoxication.

Taking the lobule as the unit of study in the liver, we find that the portal vein approaches the lobule by dividing into a plexus around and through it, ending in the efferent, or hepatic vein. Into this plexus empty the radicles of the hepatic artery. In this particular location the blood is brought in intimate contact with the liver cells and at this point we reach the sphere of specific liver function. The bile is formed; quite as important, those highly toxic substances aforementioned are

oxidized and converted into the harmless products mentioned heretofore. This last most important function is made possible by the presence and aid of adrenoxidase; this substance coming from the abdominal aorta through the hepatic artery, and finding its way into the portal radicles just before they enter the lobule.

This process of oxidation is impossible in the absence of either the adrenoxidase or the liver. We must then, regard the liver as our chief central laboratory in which the secretion plays such an important role, and in which this agent first meets and changes the toxic acid biproducts and tissue waste into harmless substances.

To group the aforementioned facts within a short space it is permissible to state that a condition may arise during the course of many diseases in which we have a disturbance largely located within the liver, influenced probably by improper or deficient function of the adrenals, which may be due solely to the adrenals; or reflexly from the influence of the thyroid and pituitary; this condition is one in which we have a distinct and easily proven suboxidation, together with a carbohydrate starvation; this condition is called Acidosis. It is not a disease. but a disorder, coming especially in diabetes, starvation, black water fever, mental or surgical shock, anesthesia, violent physical exertion, and infections, occasionally coming as the only disturbance demonstrable.

This disorder is characterized by severe depression; usually, but always, by severe vomiting, and deep sighing respiration, restlessness; deeply sunken eyes; a characteristic sweetish aromatic odor of the breath, similar to chloroform, which is due to acetone; in the urine we find diacetic acid and acetone; obstinate constipation; usually no fewer and often subnormal temperature, but occasionally the temperature may run high in the last hours. The group of symptoms aforementioned are rather typical of a severe case. As has been mentioned before, there are different degrees of intoxication, hence, different degrees in the symptomatology; death may ensue early, as in chloroform anesthesia. All cases of diabetes mellitus and hyperthyroidism, die of acidosis. It may become a chronic condition leading to cardiorenal disease (Dittman & Walker, *New York Medical Journal*).

Grouping the etiology and pathology into one sentence, I repeat acidosis is essentially a condition of suboxidation and carbohydrate starvation.

The treatment for this disorder is exceedingly simple and the results are uniformly constant and gratifying. Sodium bicarbonate to neutralize circulating acids and glucose to supply or stabilize the carbohydrates lost or at least to effect carbohydrate equilibrium. If the stomach is retentive, the soda and glucose may be given by mouth, and should be given freely. If glucose is not available gum drops, sugar or some form of candy may be given. Where the stomach is not retentive, soda and glucose may be given by proctoclysis (Murphy drip). If the case is desperate we may administer the soda and glucose intravenously, using one per cent of each; we may use as high as five per cent glucose with the soda; this last treatment gives prompt, rather marvelous, and entirely satisfactory results. All acids, by mouth should be prohibited during treatment; it is peculiar, that in cases where there is complete acid saturation, that the patient should have a strong desire for acids.

It is suggested here that the diagnosis of acidosis be made with discretion, certainly not neglecting a careful urinalysis, especially testing for acetone and diacetic acid. Once the diagnosis is made, this simple treatment gives very happy results.

THE CAUSES AND TREATMENT OF DYSPNEA IN CIRCULATORY DISEASE.

By J. T. HALSEY, M. D.,

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Dyspnea is one of the commonest and probably the most distressing of symptoms in circulatory disease. It is moreover not only a distressing symptom, but is in addition one, which, in its direct and indirect effects on the patient and on his heart, is most decidedly harmful. Leaving aside the consideration of the rather complicated matters of viscosity of the blood, the effect on the pulmonary circulation of distention of the lung, the influence of forced breathing on the filling of the heart and on the tone of the bronchi, dyspnea produces certain patent and readily comprehensible unfavorable effects on the circulation. Of these the most evident are the extra strain and stress put upon the heart by the distress and anxiety of the patient and by the often really excessive and exhausting physical work which the

rapid labored breathing entails. These, with the interference with quiet and sleep, often absolutely defeat all efforts to apply that most valuable therapeutic agent, rest for the heart, or any approximation thereto. Even so short a preamble has probably been unnecessary to establish the importance of improving our methods of efficiently relieving dyspnea. Here, as is so often the case, therapy will become more rational and correspondingly more efficient if it be recognized that dyspnea in these cases is not always due to the same immediate cause.

In the light of our present knowledge, at least four main causes of dyspnea may de differentiated. The first of these is essentially the insufficient flow of blood through the lungs and the rest of the body, with the resulting insufficient oxidation and incomplete removal of the CO_2 in the lungs and the too great loss of oxygen and excessive accumulation of CO_2 and other waste products in the systematic circulation. This type or cause of dyspnea has long been recognized and it may be conceded that the remedy therefor lies primarily in the improvement of the circulation by any means at our command. It is probable, too, that the therapy usually employed in these conditions is at least reasonably correct and efficient. These cases are usually cyanotic, and as a rule the lungs are more or less wet.

The presence of fluid in the pleural cavity as a cause of shortness of breath is recognized far better in theory than it is in practice. Little can be said in addition to what has been said so often on this phase of our subject, but I cannot refrain from once more expressing my firm conviction that this condition should be detected, and that, in a case of cardiac decompensation, the presence of hydrothorax is an indication for prompt aspiration, while its recurrence calls for repetition of the procedure. Other therapy is often successful only after the hydrothorax has been relieved.

Physicians all too often fail to realize that in cardiac cases the dyspnea is frequently in large part due to spasm of the bronchi or in other words to the same condition as is present in what we call bronchial asthma. The failure to recognize this has led to a neglect of those remedies which have been found so efficacious in asthma, and consequently treatment has frequently been unsuccessful. Bronchial spasm as the main or as a contributing cause of dyspnea in a cardiac case should be at least

suspected when auscultation reveals the presence of sibilant and sonorous rales and the prolonged, often sighing expiration so often heard in asthmatics. These patients may or may not be cyanotic. The confirmation of this interpretation of the dyspnea is furnished by the success which follows the administration of such remedies as have proved useful in asthma, such as morphin, best combined with atropin, adrenalin, used in the presence of a severe decompensation cautiously and tentatively, asthma cigarettes or pastilles, chloral (with caution) alone or combined with bromides and urethan, of which latter it is necessary to speak more at length. Urethan is a drug introduced in the late eighties as a hypnotic, which was tried and found wanting, chiefly because it was too feeble in its effects. About five years ago in the course of a pharmacological investigation H. Meyer found that urethan had a well developed power of preventing or overcoming spasm of the bronchi. On his recommendation the drug has been quite widely used to relieve or prevent bronchial asthma and with success. For several years past I have been using this drug both to prevent and to relieve these attacks in circulatory cases, and often with most satisfactory results. It appears to be remarkably free from any undesirable side actions, even when given in large doses. The dose according to text-books is ten grains, but I do not think it worth while to use it in asthma in doses of less than twenty grains, and if necessary I do not hesitate to increase the dose to forty grains. Its action as a mild hypnotic is more often an advantage than a disadvantage. It has a disagreeble taste and may be given in wafers, but it works more certainly and promptly if given in solution . Finally in considering the treatment of these asthmatic attacks in cardiac cases we should not forget the value of catharsis or the relationship in some patients between ingestion of certain articles of diet and asthmatic outbreaks. In more chronic cases the antiasthmatic action of iodides may be employed with advantage.

The recognition of a fourth cause of dyspnea in circulatory disease we owe to recent clinical investigations of the reaction of the blood and of the effects on the respiratory function of even slight changes therein. As a result of these studies it may be confidently affirmed that a diminution of the alkalinity of the blood is at times a chief cause of dyspnea. These patients

are not cyanosed (unless there be other causes for the dyspnea). They present, as the chief feature by which they may be recognized, a dyspnea which is out of proportion to the other evidences of the circulatory disease. Further confirmation of this diminished alkalinity of the blood will be furnished by the fact that as a rule in such cases it is necessary to give large amounts of alkalies before the urine becomes alkaline. In fact in certain cases I have not been able to secure this result, because the doses necessary to alkalinize the urine were so large as to upset the digestion or to cause diarrhea. Unfortunately too it has been my experience that all of these cases do not respond satisfactorily even when the urine does change its reaction. However in some patients the results have been soo good that I would urge you to try alkalies in appropriate cases. I am accustomed to start with five grains each of bicarbonate of soda and of the citrate and acetate of potash every hour. Probably the lack of success of this treatment in certain cases apparently of this type, is to be explained by the assumption that there are other causes of this dyspnea without cyanosis, which we do not yet appreciate or recognize.

In conclusion it must not be forgotten that, while on paper we can classify cases of dyspnea in the fashion outlined, in practice we are called upon to treat patients in whom two or more of these causes (and perhaps others at present unknown) are at work. If however we make an effort to size up the individual case and to find the main cause or causes of the dyspnea, and then inaugurate the treatment which seems most applicable, we will, I believe, meet with greater and more frequent success in the relief of this most distressing and harmful symptom.

CASES OF INTEREST — PNEUMOCOCCUS ARTHRITIS AND A VERY UNUSUAL TYPE OF BRONCHO-PNEUMONIA.

By A. L. LEVIN, M. D.,

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CASE I.—PNEUMOCOCCUS ARTHRITIS.

In presenting this case, I have in view several interesting points, namely: I. It is rather of rare occurrence. Herrick

collected only 52 cases in the literature. II. As a rule the pneumococci attack one or several joints after the invasions of the lungs, either shortly after the crisis in pneumonia, or as late as three weeks afterwards. In the case under consideration, there is no history of pneumonia. III. The probable cause of bringing the pneumococci into prominence in this case is very interesting and the circumstances were such as to probably involve a medico-legal question. The history of the case is as follows:

C. W. H., age 44, M., engineer by occupation, of good habits. F. H. F. and M. dead, one brother and two sisters living in good health. P. H. gonorrhea 20 years ago, diphtheria four years ago and typhoid three years prior to the onset of arthritis. Shortly before the development of arthritis the patient suffered from overflow of tears from left eye. Passing of a probe through the duct was practiced from time to time. That procedure would often result in a good deal of trauma to the part, hemorrhage, ecchymosis and tumefaction would develop. In the early part of January, 1914, the patient walked into my office in a crippled fashion, complaining of very severe pain in the right knee joint. He retired the evening of the 2st of January in perfect health, and at 3 a. m. January 22 he was awakened by a severe pain. He remembered that twelve hours previous to onset of pain he struck his knee slightly while climbing a ladder to inspect some work. Such knocks in the life of an engineer are almost of daily occurrence. On examination I found the knee joint uniformly swollen, a painful spot to the inside of the knee, no visible mark indicating trauma, no visible zone of inflammation; temp. 101, P. 104. Patient was put to bed, bowels opened by purgative, and the usual remedies for arthritis ordered. In the following few days there was not the slightest response to treatment; condition getting steadily worse, temp. reaching 103, pain more severe, a decided increase in the swelling of the knee joint, a marked inflammatory zone, edema below and above the knee joint, fluctuation could be distinctly felt. The presence of pus in the knee joint was almost certain, urine normal, leucocyte count 30,000. I called my friend, Dr. Hatch, in consultation, who decided to open the knee joint. He was admitted to the Touro Infirmary on January 28. Shortly after admission the knee was opened, a quantity of pus was liberated, joint was irrigated through and through and drainage tubes introduced. A specimen of tissue and pus was sent to the laboratory. Dr. Lanford reported: "acute inflammatory tissue and culture given morphologically pneumococci, pus pneumococci." January 30, condition worse, temp. higher, leucocyte count 50,450, P. N. 94, S. L. 4, L. L. 2. The swelling began to climb up very rapidly and reached the upper third of the thigh. The patient was desperately ill, in a state of septicemia and we

feared any minute a development of septic pneumonia. Prof. Rudolph Matas was called in consultation. His suggestion was to make free incisions all along the extremity, painting it afterwards with a 50% ichthyol, and soaking constantly in a hot solution of lead and opium. Eight incisions were made from the thigh downward and additional drainage tubes were introduced in the middle of the leg, where pus was also present. A characteristic feature of the pneumococci infection is the fact that it softens the tissue to such a degree that after the skin is cut through, one can easily separate the tissues with the tips of the fingers without resorting to instruments, because the tissues become very soft and spongy in character. Daily irrigations with a warm solution of 1% lysol were instituted. The plan worked splendidly in checking the onward movement of the enemy, but the infection started a most stubborn siege warfare of the extremity from the knee downward, which lasted six long months, constantly draining pus. During that time, the wounds closed up apparently on two occasions, but as soon as a plaster of paris cast would be put on to straighten the knee joint as much as possible, the latter would act as an irritant and pus would again make its appearance. On May 21, 1914, he was readmitted to the Touro Infirmary. An X-ray picture of the knee joint showed that the bone was not involved. To make it sure, the knee joint was opened up and broken and the bones thoroughly inspected, but no sign of involvement of the bones could be detected. Dressing of the joint in the usual manner was continued. At the end of 5½ months there were still several fistulas open draining pus. I had given him then several injections of Van Cott's combined bacterial vaccin. I doubt whether the vaccin had any influence in checking the infection, although my experience in that respect is very limited. At the end of a six months' battle the victory was finally complete. A cast was put on again, and to our regret this time it gave rise to an outbreak of erysipelas. The latter invader again gave me trouble for a few weeks. After his recovery from erysipelas, Dr. Hatch devised a special brace to straighten somewhat the joint, but mainly to act as a support. At present he does not need any support, he has even dispensed with his friend, the walking-cane; he is happier with his own crippled leg than he would be with an artificial one, especially since he is able to pursue the same occupation as before the illness. He is still suffering, though, from an overflow of tears from the left eye.

The question now arises in my mind, how did the pneumococci in this case reach the blood-stream? It is a well-known fact that the respiratory tract is the harboring place for the pneumococci, and that they are found in a small percentage in normal individuals. Wasn't then the probing of the tear duct responsible for their access to the blood and the slight trauma of the knee a mere coincidence? Surely the trauma could not have created

pneumococci in the knee joint in twelve hours. The medico-legal is now staring us in the face. If the probing is the causative factor, the employer is not responsible; on the other hand, if the trauma created the whole trouble, the employer is certainly responsible. In my poor judgment, it seems plausible that the pneumococci were introduced from the nose into the blood-stream by the probing, the trauma probably lowered the resisting power of that particular spot, and the pneumococci found immediately a favorable location for starting their mischievous work. If this be true, shouldn't it then teach us a lesson of caution in probing the nasal duct for overflow of tears?

CASE 2.—A PUZZLING CASE, PROBABLY AN UNUSUAL CASE OF BRONCHO-PNEUMONIA.

This case presents also some interesting features worthy of consideration. There was no positive diagnosis made. Patient is six years of age, parents and two younger sisters are in perfect health. P. H. Uusual diseases of childhood. The case first came under my observation on December 29, 1914. The following history was obtained:

At the end of the fifth week of an attack of pertussis the child suddenly developed high temperature, which lasted for 24 hours. Seven days later high temperature developed again and began to run an irregular course, rising to 103.5 in the evening, lasting a few hours and becoming normal for a few hours or days, to rise suddenly again to 103 or higher, sometimes in the early morning. No nausea, no vomiting, no pain and no cough.

Patient was admitted to Touro Infirmary on December 29, 1914. On my first examination soon after admission at 8 p. m., I found the child to be somewhat emaciated, anemic, temp. normal, pulse 108, respiration 35; physical examination of heart revealed a faint systolic blow, lungs negative; abdomen soft and no sensitiveness could be elicited on pressure, liver and spleen not palpable. At that moment the parent's dash with the child all the way from Grand Isle, a distance of eighty miles, to Touro Infirmary was not quite clear to me. Four hours later, temperature suddenly climbed up to 103.5, pulse 128, respiration 135. From that time on until January 7 the temperature suggested a septic focus somewheres. The accompanying chart will give you an idea about the temperature curve. You notice on two occasions a maximum temperature of 106 and a minimum temperature by rectum of 95. I called in consultation my friend, Dr. L. R. Debuys, who examined the child thoroughly and could find no definite cause for that remarkable temperature curve. Dr. A. I. Weil was called in to report on the

condition of the ear, nose and throat. He examined the child twice and reported absolutely negative as far as the ear, nose and throat were concerned. Repeated examinations of the lungs were negative. The heart, however, became louder and musical in character, area of cardiac dullness was normal. Laboratory findings: Repeated examinations of the urine voided, also catheter specimens were negative, blood count on December 30, total whites 29,000, lymph. 5% and polys 95%. On January 1, total whites, 22,400, N. 66, L. L. 6, S. L. 26, E. 2. Sputum for T. B. and Von Pirquet test negative. Blood cultures, reported by Dr. Lanford, first specimen, one plate showed streptococci. Thinking it was due to contamination of the skin, another blood culture was made with the utmost care against contamination. Staphylococcus on culture was the report by Dr. Lanford. Examination for plasmodia was negative. X-ray report—shadow at the base of the right lung, probably encysted empyema. A needle was introduced twice with negative results. Fortunately very little medicine was given. Antipyretics had no effect and urotropin still less. On January 7 temperature, pulse and respiration became normal and remained normal until January 12, when the child was discharged apparently well. The murmur, however, was still present. A fluoroscopic examination showed lungs clear. On January 23 the child left for home on a rainy and stormy day. Several days later she developed temperature again and began to cough. On January 31 she was brought to me again with temperature of 105. On examination I found both lungs filled with moist rales. Under proper treatment lungs cleared up rapidly and temperature subsided for a few days to recur again, although on examining the lungs they were found apparently clear. On observing the case closely I noticed that the high temperature would last a few hours, to be followed by a profuse perspiration. I examined the blood again for plasmodia, with negative results. I then thought of our old standard, quinin, as a therapeutic test. A trial of that remedy for three days brought down the temperature to normal and has never recurred since, although a week later she developed a spell of coughing for 24 hours with rales in the lungs, but no temperature. About five months ago the child came again under my observation looking robust and healthy, having gained in weight considerably. Examination of the heart still showed a faint systolic blow. On advice, her tonsils and adenoids were removed by Dr. A. I. Weil. At present the child is perfectly well. What is the probable diagnosis in this case? Broncho-pneumonia is very suggestive, though it is rather an unusual type. Why then should quinin control the temperature?

ABDOMINAL PAIN, ESPECIALLY WHEN ASSOCIATED WITH ABNORMAL TEMPERATURE, AN INDICATION FOR CAUTION IN THE USE OF PURGATIVES, WITH REPORT OF A FEW ILLUSTRATIVE CASES.*

By JOHN SMYTH, M. D., F. A. C. S.,

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It is not with the idea of bringing to you anything new or original that I submit this brief paper, but simply to remind you of a few points, the value of which we are all aware but which we too often overlook.

Pain, associated with fever, is, as we know, suggestive of inflammation. Hilton, in referring to the early period of man, says:

"Under injury, pain suggested the necessity of, and indeed compelled him to seek for rest. Every deviation from this necessary state of rest brought with it, through pain, the admonition that he was straying from the condition essential to restoration. He must have observed with astonishment, the breaking asunder of the newly formed tissue or the steady development into normal structure which occurred in exact acccordance with the disturbance or rest to the part which the sense of pain had enabled him to regulate so accurately and to employ so beneficially for his own personal relief and comfort."

We see constantly how essential is rest in fractures, joint diseases of inflammatory type, and in the repair of wounds, either infectious or non-infectious, and pain usually suggests to the victim rest in these as well as many other conditions before the advice of a physician is obtained.

From simple tracheotomy for the relief of certain laryngeal conditions to the more formidable ceco-sigmoidostomy for the relief or cure of rebellious colitis, we have as a leading principal and controlling factor—rest, physiological and mechanical rest.

A. J. Ochsner, in a review of one thousand consecutive cases of appendicitis (*Southern Medicine and Surgery,* Chattanooga, November, 1904) concludes that in the treatment of acute appendicitis, neither food nor carthartics should be given by mouth, that large enemas should never be given, that gastric lavage should be employed especially in cases suffering from nausea.

*Read by invitation before the East Feliciana Parish Medical Society, Clinton, La., April 5, 1916.

It is needless for me to comment upon this, as we all know the enormous reduction in the mortality since this treatment was adopted generally; the underlying principle of which is rest.

It is not always easy, in fact it is often exceedingly difficult, to differentiate the many abdominal conditions associated with pain and fever. Many times they are ushered in with pain in the region of the umbilicus. Deaver says that the location of the initial pain in the majority of cases of appendicitis is in the umbilical or peri-umbilical region, next in order of frequency, the epigastrium, and least commonly, the right iliac fossa.

The pain of appendicitis may, however, be referred to any region of the abdomen, depending upon the position of the appendix. It is, no doubt, a lack of appreciation of this fact that results in so many errors of diagnosis in acute abdominal affections. Deaver has further observed in many attacks of slight appendicitis in young people, and particularly in children, that there may be no pain, not even tenderness in the right iliac fossa.

The secondary or localized pain of appendicitis is largely due to a circumscribed peritonitis and is referred to the position that the appendix may occupy, or it may be referred in the direction that the appendix may assume relative to nerve distribution, as when the appendix rests on the psoas muscle and is in relation to the anterior crural nerve the pain may be referred to the thigh or to the knee.

The frequency of appendicitis being associated with gall-bladder trouble, as shown by Mayo, and its occurrence as a complication in many other abdominal conditions further complicates abdominal diagnosis, again it is so often obscured by or so closely simulates other conditions as acute indigestion, etc., that the possibility of its presence should never be forgotten.

Case 1.—Male, age 33, at about 9 p. m. was attacked suddenly with cramp in the abdomen. Usual domestic remedies were used, including hot water bag to the abdomen. Two tablespoonsful of castor oil were given the following morning. Condition grew gradually worse and a physician was called in the third day. Three grains of calomel were given in ½-grain doses every hour. Pluto water next morning. Patient complained of great pain in the abdomen until about 3 p. m., when the pain subsided and patient began to perspire freely and complained of great weakness. I saw this patient in consultation at 2 a. m., temperature 103 2-5, pulse

140-155, weak and irregular. I made a diagnosis of peritonitis following ruptured appendix, and as the patient was, in my opinion, dying, I advised against any surgical intervention. The end came at 5:40 a. m.

Case 2.—Female, age 35, while at dinner had sudden abdominal pain, followed by fever, following day chill, fever continuing. Four grains of calomel were given followed by pluto and oil. The next day patient had rigors with continuing temperature. I saw this patient on the evening of the fourth day, at about 8:30, bowels had not acted, the skin was cold and clammy and there was no perceptible radial pulse. Stethescope over heart showed 190 beats per minute. Abdomen was distended and tense, respiration rapid and shallow, rectal temperature 105. Intravenous infusion reduced the heart beat to about 180. Diagnosis was made of general peritonitis due to ruptured appendix. Incision through the right rectus under novocain was made. Abdomen was found full of milky fluid under considerable pressure. Appendix was ruptured, gangrenous, and bathed in foul pus. Drain tubes inserted. Respiration and pulse improved temporarily after relief from distention, but the patient succumbed to the profound septicemia a little before midnight.

Case 3.—Male, age 64. Carbuncle 4x6 inches on back, one week duration, pulse 140, temperature 103 2-5. Considerable improvement, when about three weeks later had vomiting spell, next day pain in the abdomen with marked epigastric distention, hot turpentine stupes applied and hot peppermint water by mouth. Following day distention slightly less, calomel was administered, followed by salts. The next day patient complained of pain on palpation in the region of the appendix. Temperature 102, pulse 120. Ice cap applied. Following morning patient complained of great weakness and was found later by his physician in collapse. I saw this patient for the first time in the operating room, where I was called hurriedly at about 2 p. m. The uselessness of any operation was apparent. However, being urged by relatives, a small abdominal incision was made, disclosing general septic peritonitis and ruptured appendix. Two large drainage tubes were inserted, patient died at 5 p. m.

Case 4.—Male, age 17. Attacked suddenly with "cramp colic" after a hearty meal. Given the usual home remedies, and on the third day castor oil. Patient grew rapidly worse and on the morning of the fourth day had chill, when the family physician was called in and the diagnosis of appendicitis was made. I saw this patient in consultation on the morning of the fifth day, his general condition was good, and, as McBurney expressed it, "it was too late for the early operation and too early for the late one." I advised continuation of the Ochsner treatment. On the morning of the ninth day, temperature having been normal for two days, under ether anesthesia, the appendix was removed. It was found perforated and surrounded by about 2 drams of foul pus, walled off

by very frail adhesions. Cigarette drain was placed at the lower end of the wound, removed within 48 hours, patient made an uneventful recovery.

As Craig and Speese have said, the subject of appendicitis has received so much attention that one hesitates to offer any comment on the recent literature, yet Murphy in his Clinics 1915, IV, No. 3, says: "It is just the time to begin talking of appendicitis, and talking most seriously and emphatically." He was amazed to find that the mortality rate in the combined statistics of a number of hospitals was a little over 10%.

This frightful rate is considered due not to any fault in the technic on the part of the surgeon, but to the fact that the patients did not reach the hospital in time for successful operation. Murphy thinks that procrastination was the cause of death. I believe that the treatment of these cases prior to their admission to the hospital plays a very large part in the subsequent mortality. The cases that are operated early are spared the unfortunately too common treatment of purging and waiting. Yet, from my own experience, and from the observation of that of others, I am confident that many cases may be tided over what we considered the dangerous period and carried to the cold stage, where operation is safe and convalescence rapid.

In all abdominal conditions associated with pain the question of previous history of constipation should be carefully considered. The importance of this is appreciated when we remember that constipation is a prominent symptom of appendicitis, and that we seldom see a case of appendicitis at its beginning.

"Eulenberg, 1890, published the results of his research into the pathohistology of appendicitis, which clearly revealed that appendicitis is essentially a subacute or chronic inflammatory disease, that it commonly has a subacute beginning without obstructive clinical symptoms, and that the acute symptoms manifesting it clinically are but a critical phase of a long-standing disease. In the years that have since gone by but little has been added to this conception of the disease, and nothing to contrafute it. Although but few men have given his statement its commensurate consideration." (Pnatzer.)

Waller and Cole, in their clinical and roentgenological studies of the appendix, feel justified in assuming that the initial lesion of appendicitis is one of infancy and early childhood and that

many of the ills common to this age are but manifestations of this process.

In gall-stones, purgatives induce exhaustion and do no good; in gastric and duodenal ulcers, they encourage vomiting, distress the victim, and increase the danger of perforation; in intestinal obstruction from ileus or intussusception, they induce overdistention, and where the obstruction is low, increase the toxemia and encourage a fatal termination.

In appendicitis and "typhlitis" (Obal) they prevent rest, interfere with local protective and reparative efforts, increase the destructive process, and invite rupture with all of its dangers. Further, owing to the frequency of pyrolospasm, and pyloric and intestinal obstruction in infancy and childhood, the use of purgatives in these little ones is especially hazardous where pain and fever and constipation are common and prominent symptoms.

Conclusions:

1. The use of purgatives in obscure abdominal conditions should be avoided.

2. They should never be given when abdominal pain is present, until such conditions as appendicitis, ileus, intussusception, and ulcers have been excluded.

3. Abdominal pain with constipation and fever is so frequently the result of appendicitis that the probability of its presence should never be overlooked.

4. Purgation is not only contra-indicated, but unquestionably dangerous in acute appendicitis, except possibly at its immediate onset (Sonnenburg) and is directly opposed to the modern treatment.

5. If we realize that the average patient may live for a while without nourishment, even nutrient enema may be withheld from 18 to 48 hours, all food by mouth should be prohibited, and even water, especially in cases of nausea. Mouth washes, however, should be used freely, saline or glucose or plain water enema or Murphy drip, being given to quench the thirst, ice-cap to the abdomen, absolute rest in bed, and Fowler position maintained and purgatives avoided until a definite diagnosis can be made and appropriate treatment instituted.

I believe if this plan of caution was adopted in all obscure abdominal conditions where pain, constipation, and fever are symptoms, many lives would be saved and such cases, as I have briefly reported to you, would rarely occur.

N. O. Medical and Surgical Journal

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THE MEETING OF THE STATE MEDICAL SOCIETY.

The thirty-seventh annual meeting of the Louisiana State Medical Society was held in New Orleans during the week of April 24 to 29, and included the scientific sessions, clinics, lectures and social functions. There were 136 members registered from the country parishes and 227 from the Parish of Orleans.

The Touro Infirmary and the Hotel Dieu were hosts at luncheons on two days of the meeting and the medical schools of Tulane gave a buffet lunch on the third day of the regular meeting at the Hutchinson Memorial of the Medical College, at which building all of the general sessions were held.

The meeting closd Saturday night, April 29, with an entertainment at the Orpheum Theater followed by a supper at one of the restaurants.

President J. C. Willis, of Shreveport, presided at most of the sessions, at which sections on all branches of medicine and surgery were held, and in which an unusually high standard of papers was presented. The House of Delegates met frequently during the session of the Society and seemed to have been quite busy.

The officers for the coming year are noticed elsewhere but some special notice of the new president is called for here.

Dr. W. H. Seeman, of New Orleans, has been quite active in the affairs of the Society for several years and his selection for the presidency has been deserved. Aside from his interest in medical organization, Dr. Seeman has for some time been at the head of the bacteriological departments of the City and State Boards of Health and was especially identified with the excellent achievements in the plague situation. Dr. Seemann was for a number of years in charge of the clinical laboratory of the New Orleans Polyclinic and has been connected with the Tulane School of Hygiene and Tropical Medicine since its inception, and he has been Dean of this school since 1914.

The office comes to Dr. Seemann as a recognition of his service in State medicine and we feel assured that the coming year under his administration will mark an advance in the progress of the Society.

The 1917 meeting place will be Alexandria, where many will recollect a former successful meeting was held.

Altogether the meeting was eminently successful and much of the credit must be allotted to the Committee of Arrangements and the Committee on Clinics, who, for the first time, made this part of the program both interesting and effective.

THE MISSISSIPPI STATE MEDICAL ASSOCIATION.

The forty-ninth annual session was held on the banks of the Mississippi at Greenville, on May 9, 10 and 11, 1916, the House of Delegates convening first on May 8, under the presidency of Dr. I. W. Cooper, of Newton.

The meeting was highly successful, with an attendance of about three hundred including most of the best-known men of the State itself and visitors from New Orleans, Memphis, Birmingham, Detroit, and Knoxville.

Sessions were held at the Elysian Club, a few doors from the principal hotel of Greenville, Hotel Cowan, which made it very convenient for the majority of those in attendance. The club building is handsome and served the purpose quite satisfactorily.

The business sessions were interesting in so far as they showed a good financial situation for the society and a satisfactory membership list, but the secretary reported several counties either unorganized or not reporting.

An appropriation was made for a loving cup to Dr. Carroll Kendrick. A committee was appointed to confer with the attorney general as to the limitation of the activities of druggists. The secretary was instructed to notify the *Pan-American Surgical and Medical Journal* that their relationship would be discontinued from date.

The officers for the coming year were all elected upon the recommendation of the nominating committee and unanimously as follows: President, T. M. Dye, of Clarksdale, former councillor from the first district; vice-presidents, T. W. Reagan, of Union; R. C. Smith, of Dwiggins; R. A. Strong, of Pass Christian; Councillor for fifth district, S. J. Hooper, Kosciusko; for sixth district, S. W. Johnson, Vicksburg, and for first district to replace Dr. Dye, L. L. Minor, of Hollywood; delegate to the A. M. A., I. W. Cooper, of Newton. The popular and active secretary, E. F. Howard, of Vicksburg, holds over as well as the efficient treasurer, J. M. Buchanan, of Meridian.

The scientific program was divided into seven sections, each of which presented at least several papers of unusual value and many of which were above the average. Unfortunately, their number was rather large, over eighty papers being listed in addition to the opening exercises and the addresses on the evening of the public session. Had it not been that there were, as usual, a number of absentees and that several, through courtesy for their guests, asked to read their articles by title, the program could not have been finished on

time. As it was, the lack of time precluded the possibility of adequate discussion in some of the sections. The discussions held, however, were valuable and, in some instances, as interesting as the papers introducing them, notably that on malaria on the medical side and that on gall-bladder operations on the surgical.

The entire session was harmonious and characterized by good fellowship. All those present seemed glad to be there and were planning to be at the next session, which is to be held at Jackson

Dr. L. R. DeBuys attended as fraternal delegate from the Louisiana State Medical Society; the annual oration was delivered by Dr. E. D. Martin and New Orleans was otherwise represented by Drs. Drs. Bel, Bass, Chassaignac, Halsey and Lanford.

THE TULANE COLLEGE OF MEDICINE.

New Orleans has always been a medical center, because of its metropolitan relation to contiguous territory and because of its provisions for the hospital care of a large population moving from many contributing states.

The early economic demand for physicians in the United States compelled centers of supply and New Orleans among the other large cities in the United States afforded the hospital facilities for instruction without which physicians could not be adequately trained.

So, as the New Orleans Charity Hospital began operating in 1832, in 1834 the College of Medicine started and the two have continued ever since, each contributing in its own field to the health of the State of Louisiana and to those states contiguous. It was not until 1847 that the State of Louisiana recognized the institution of a Medical College, although similar schools had been in operation for many years in more Northern States. In becoming the University of Louisiana, together with an embryo Law School and a projected College of Arts and Sciences, in 1847, the Medical College really began a fixed career which has always kept in advance of the rank and file of similar schools in America. Whenever new ideas in medical progress have appeared, the Medical College in New Orleans has either reflected

that progress promptly, or has taken the lead in its elucidation. The whole modern idea of insect borne disease came from this locality, and more modernly the latest word in hookworm, malaria, beri beri, leprosy and pellagra have come from the scientific research of the various members of the Faculty of the College of Medicine of the University of Louisiana, now called Tulane. Every national scientific medical body of any importance is locally represented by members of the teaching staff in Tulane, and, on many of such bodies, the local men have often served as executive heads.

Within the past ten years ideas in medical education have been revolutionized and to-day a more rigid requirement is made of the intending doctor—from the beginning of his high school work until he is licensed to practice medicine. Not only has Tulane met these requirements, but so well that the School of Medicine is one of those in the highest class as listed by the national bodies determining college standing. More than this the equipment in teaching, facilities, and in accomplishment, appertaining to the degree in Medicine from Tulane University, has altogether obtained the hallmark of the Royal College of Physicians and Surgeons in Great Britain, making Tulane one among a few American Colleges recognized as eligible for the degrees of the Royal Colleges.

With the growth of the College of Medicine, the School of Pharmacy at Tulane has been a continuous associate, filling a place among Southern universities, in which a scientific education is offered together with a practical training in a responsible calling.

Since 1888 port-graduate teaching has been carried on in New Orleans, by the New Orleans Polyclinic, which since 1906 has been an integral part of the University and what is now one of the Schools in the College of Medicine. Tulane was the first University in this country to recognize the importance of associating a clinical school for physicians with college work. To-day the practitioner of medicine can get any part of graduate medical work at Tulane, clinical, operative, review, or research in the laboratories and all under University direction.

The School of Dentistry in the College of Medicine enjoys the advantages of thorough university application, through which for the first two years classes are taught in the laboratories with

students of medicine and are thoroughly drilled in the Sciences. Additional technical laboratories are provided and an excellent clinic with large attendance.

In 1911, for the first time on the American Continent, a School of Tropical Medicine was inaugurated as a department of the College of Medicine, later, in 1913, becoming a separate integral part of the College of Medicine and expanding in the School of Hygiene and Tropical Medicine including Preventive Medicine. Not only were special laboratories created for the school, but a great organization for public service was inaugurated, in which not only the physician would be chiefly concerned, but the school teacher, the student body of the University, the sanitarian, the engineer, the trained nurse and the citizen. Now the health official of the South may be properly trained, the physicians in the Tropics may come for laboratory equipment and technic, and meantime the student in regular courses is given thorough instruction in these newer fields of medicine.

The laboratories of the College of Medicine have engaged in the investigation of problems of economic importance and as the years go by the new fields of preventive medicine will be more and more engaged in the altruistic work of a body of scientists aiming at the reduction of the death rate and the healthfulness of the community.

The Tulane College of Medicine is not sufficiently endowed to do the work laid out for it. It must compete with institutions either supported by the State or by a liberal philanthropy. Nevertheless the standards of education are as high as any in the United States, and the faculties mean to keep the standards high.

Degrees are offered in Medicine, Dentistry, Pharmacy, Public Health, Tropical Medicine and certificates and diplomas are awarded for satisfactory attendance. Nearly 5,000 men and women have been graduated from the several schools in the College of Medicine and around the orginal undertaking in 1834 have gradually congregated the various other colleges which now make up the great Tulane University of Louisiana.

There are still several generations of medical men in the Southern States and in Louisiana especially who were trained at the Medical School of Tulane and we are sure that the present standing of their alma mater is one of assured pride. It is becoming, then, that that interest should not rest in a mere content

but that each and every loyal graduate of Tulane should see to it that her traditions are preserved, especially when it is considered that the years which have gone by and those which are passing have in nowise detracted from the endeavors of the active teachers in Tulane to keep the standards high in all respects and that no unbecoming nor defamatory and scurrilous attacks can ever touch her honor.

Medical News Items

THE SOUTHERN SOCIOLOGICAL CONGRESS met in convention in New Orleans, April 13 to 15, with about 2,000 delegates present. The following physicians were elected to office: Dr. Oscar Dowling, New Orleans, first vice president, and Dr. Edward H. Carey, Dallas, Texas, member of the executive committee. Dr. Wm. A. Evans, Chicago, and Carrie Weaver Smith, Gainesville, Texas, secretary of the Section on Health. A donation of 700 acres of North Carolina land, about 30 miles from Asheville, was made by Mrs. D. B. Stafford, of Hot Springs, N. C., who was in atendance at the Congress. This land is to be used by the organization in fighting tuberculosis. A gift of several thousand dollars was made also to start a fund to be raised for the erection of suitable buildings for a sanatorium. It was announced that $200,000 had been pleged for sanatorium buildings and will be available as soon as the administration building has been erected.

EXAMINATIONS FOR MEDICAL INTERN AND ASSISTANT EPIDEMIOLOGIST.—The United States Civil Service Commission will hold an open competitive examination for medical intern, for both men and women, on June 7, 1916, in the prominent cities of every State in the Union. From the register of eligibles resulting from this examination certification will be made to fill vacancies in this position in the Government Hospital for the Insane, Washington, D. C., at $900 per annum, with maintenance. The positions are tenable for one year. Applicants must be graduates of reputable medical colleges, or senior students of such, with the expectation of graduation within six months from date of examination, and must be 20 years of age, or over, on the date of the examination. Persons desiring this examination should apply for Form 1,312,

stating the title for which the form is desired, to the United States Civil Service Commission, Washington, D. C.

An open competitive examination will also be held by the Commission for *assistant epidemiologist,* for men only, on June 6, 1916. The salaries range from $2,000 to $2,500 per annum. The duties of this position will be to make epidemiologic and sanitary surveys to determine the prevalence and causation of disease, to conduct laboratory studies in relation thereto, and to recommend measures to prevent and control outbreaks of disease. Applicants must have reached their twenty-third but not their fortieth year on the date of the examination. Persons desiring this examination should apply for Form 304, stating the title of the examintion desired, to the United States Civil Service Commission, Washington, D. C.

Little Damage to Abbott Laroratories.—A communication from the Abbott Laboratories announces that contrary to the grossly exaggerated report of the newspapers, there was very little damage sustained by the laboratories. The newspaper report that the firm had been engaged in the manufacture of ammunition or explosives is also denied.

Mosquito Campaigns.—New Orleans is not the only city in which mosquito campaigns are being waged for the extermination of these pests. New York, Jersey City, Philadelphia and Baltimore are actively at work in similar campaigns. Householders are co-operating with boards of healths in these cities in removing breeding places, and bulletins outlining the necessity for fighting the mosquito are being sent into the homes. With a thorough warfare on the mosquito, it is hoped to soon rid these cities of the pestilential insects, and show the way to other cities so worried of doing likewise.

Relief Fund for the Belgian Profession.—The report of the treasurer, Dr. F. F. Simpson, of the committee of American physicians for the aid of the Belgian profession, shows, for the month of April, 1916, a total disbursement of $7,310.04, and a balance on hand of $631.82. Total receipts previously reported are $7,941.86. No contributions since February 5, 1916.

The American Association of Anesthestists will hold its fourth annual meeting at Hotel Tuller, Detroit, June 12, under the presidency of Dr. Willis D. Gatch, Indianapolis. The subject

of the president's address will be "Instruction of Medical Students and Hospital Interns in Anesthesia."

THE AMERICAN PROCTOLOGIC SOCIETY will hold its eighteenth annual meeting at Detroit, Michigan, June 12 and 13, 1916, with headquarters and place of meeting at the Hotel Statler. The profession is cordially invited to attend all meetings.

ACADEMY OF MEDICINE MEETING.—The forty-first annual meeting of the American Academy of Medicine will be held at the Hotel Statler, Detroit, June 9-12, under the presidency of Dr. Woods Hutchinson, New York. "The Relation of Legislation to the Practice of Medicine" and "The Relation of the Science of Medicine to Legislative Enactment" are the two principal topics to be considered. On Sunday after the seventh annual conference on Western medicine in Eastern lands will be held at the First Presbyterian Church, Dr. L. Duncan Bulkley, of New York, presiding over this conference.

RED CROSS PRIZES.—Various prizes for achievement in connection with the campaign to enroll one million members will be given by the American Red Cross on December 1. A gold medal will be awarded by Miss Lusita Leland, of New York, to the person who secures the greatest number of members for the Red Cross by December 1; five silver medals, offered by Mrs. W. Murray Crane, Dalton, Mass., for the same work by the same date; and a silver medal, offered by Miss Mabel T. Boardman, of the executive committeee, to the community which has the largest number of members per capita, and another silver medal to the chapter of the American Red Cross which can show the largest Red Cross membership increase per capita of the population of the community.

PLASTIC SURGERY OF THE FACE.—Due to trench war an unusual proportion of injuries of the face has occurred, and in order to meet the demands for treatment in this line a committee has been formed to solicit subscriptions of $20,000 to establish a hospital of 100 beds. Dr. Hebert L. Wheeler, New York, is chairman of the committee, and it is eventually the hope of this committee to equip a hospital with 500 beds.

GIFTS TO TULANE UNIVERSITY OF LOUISIANA.—The Board of Administrators of Tulane University, at its last regular monthly meeting, announced that two large contributions had been given the university, one for $10,700, while the second was for $500. The larger gift was made by certain members of the Board of Ad-

ministrators, whose names were requested to be withheld. The smaller gift was from the Quarante Club, a literary club of a score of years' standing, to the School of Technology. No particular object was in view when the larger gift was presented other than it be used for university purposes.

INSURANCE ACT CAUSES FATAL BLUNDER.—A pharmacist of London, who in dispensing mistook strychnin for butylchloral hydrate, caused the deaths of two women. It was brought out at the coroner's inquest that this extraordinary mistake was due to nerve strain from overwork in dispensing an enormous number of prescriptions under the insurance act.

APPOINTMENTS TO CHARITY HOSPITAL AND TOURO INFIRMARY INTERNSHIPS.—The following are the successful candidates from Tulane University for the internships in the Charity Hospital and Touro Infirmary:

Charity Hospital: H. E. Miller, J. B. Ferran, Jr., W. F. Krone, L. A. Hebert, W. T. Martin, C. E. Jarratt, H. S. Rosenthal, L. Z. Kusher, H. B. Burdeshaw, E. J. Beranger, W. L. Bendel, J. G. Pratt, W. P. Bordelon, A. C. Jackson, W. J. McLean and R. J. Mailhes. Pathological Department: Messrs. R. J. Mailhes and G. M. Jones all of Tulane. Messrs. Yeakel and Terrell, from Northwestern University were also appointed.

Touro Infirmary J. H. Park, Jr., B. R. Heninger, E. R. Bowie, C. C. Randall, E. F. Naef. To the Pathological Department: U. W. Giles.

Messrs. E. M. Levy, A. F. Hebert and S. D. Weaver were appointed to Touro Infirmary without examination upon recommendation of the Faculty of the School of Medicine of Tulane for meritorious work.

Mr. F. Willy, of Rush Medical School, Chicago, was also appointed.

WOMEN LIVE LONGEST.—In a report recently issued by Director Samuel Rogers, of the Census Bureau, women live on an average three years longer than men. Native-born white American men may expect to live 50.6 years and women 54.2. In the colored race the difference is even greater, 34.1 being the average for colored men and 37.7 in favor of women. This brings the average for the population of the colored race down to 49.9 for males and 53.2 for females. Part of the difference in the expectation of life for men and women is due to the greater number of violent

deaths among men, although this difference only accounts in a very small measure for the greater longevity of women. Girl babies have a better chance for life during each of the first twelve months than the boys. The girls have a better chance to live not only in the first year, but every year up to the age of 94. Country bred women live longer than women of the cities, though the difference is not as pronounced as in the case of men. The death-rate in cities under 8,000 for 1909 and under 10,000 for 1910 and 1911 was 10,326 per 100,000, or twenty-three per cent less than in the larger cities.

THE MARY PUTNAM JACOBI FELLOWSHIP for post-graduate study offered by the Woman's Medical Association of New York City has been awarded to Dr. Mildred Clark, a graduate from Johns Hopkins in 1914.

CORINNE CASANAS FREE CLINIC.—The laying of the corner-stone of the Corinne Casanas free clinic for the poor, of the Presbyterian Hospital in New Orleans, took place on May 5, 1916. The building in project is a memorial to Miss Corinne Casanas, who bequeathed her entire estate, amounting to $20,000, for the purpose of building a free clinic for the poor in conjunction with the Presbyterian Hospital. The building will be a fire-proof, two-story structure, and will cost $40,000 when completed and furnished. The first floor of the building will serve as a modern, free clinic for the poor, equipped with the latest and best appliances and conveniences that science can afford. The second floor will be used, for the present, as a nurses' home for the women who are in training at the hospital.

HEALTH IMPROVEMENT IN NEW ORLEANS.—In a report recently issued by the president of the New Orleans City Board of Health, the mortality statistics for April shows a reduction of 33 per cent in comparison with March, which also showed a reduction, and nearly 50 per cent as compared with April, 1915. Deaths from tuberculosis showed a remarkable decline in April of this year, being but 79, as compared with 107 for March. The deaths from all causes showed 98 less recorded in April of this year than in March, and 122 less than in April a year ago. Referring to malaria, in New Orleans, the report shows that of eight Southern cities from 1904 to 1913, New Orleans had less malaria than any except Galveston and during one year had less than Galveston or any other place. The city health officer takes the opportunity to warn all persons employing colored help to require that they be vaccinated as a protection against smallpox.

LOUISIANA STATE MEDICAL SOCIETY MEETING.—The annual of the Louiiana State Medical Society was held in New Orleans, April 25-29, with possibly one of the largest attendance in its history. The convention opened with Dr. J. C. Willis, of Shreveport, the retiring president, and secretary-treasurer, Dr. L. R. DeBuys, of New Orleans, on the rostrum. A large variety of papers in medicine and surgery were read and interesting discussions were held. The officers elected for the ensuing year are: Dr. W. H. Seemann, of New Orleans, president; Dr. T. S. Jones, Baton Rouge, first vice-president; Dr. C. V. Unsworth, New Orleans, second vice-president; Dr. T. M. Bodenheimer, Shreveport, third vice-president; Dr. L. R. DeBuys, New Orleans, secretary-treasurer.

Councilors—First congressional district, Dr. W. H. Knolle, New Orleans; second congressional district, Dr. Homer Dupuy, New Orleans; third congressional district, Dr. B. W. Smith, Franklin; fourth congressional district, Dr. J. E. Knighton, Shreveport; fifth congressional district, Dr. C. P. Gray, Monroe; sixth congressional district, Dr. J. J. Robert, Baton Rouge; seventh congressional district, Dr. E. M. Ellis, Crowley; eighth congressional district, Dr. E. Lee Henry, Lecompte.

Committee on Scientific Work—Dr. L. R. DeBuys, chairman; Drs. Paul Gelpi and E. W. Mahler, New Orleans.

Committee on Public Policy and Legislation—Drs. J. B. Vaughan, Collinston; M. W. Swords and Geo. S. Bel, New Orleans; Dr. W. H. Seemann, ex officio; Dr. L. R. DeBuys, ex officio.

Publication Committee—Dr. L. R. DeBuys, New Orleans, chairman; Drs. W. J. Durel, New Orleans, and J. B. Vaughan, Collinston.

Committee on Budget and Finance—Drs. Homer Dupuy, W. H. Knolle, E. L. Leckert, C. V. Unsworth and B. A. Ledbetter.

Committee on Memorial—Drs. J. M. Bodenheimer, Leon J. Menville, J. T. Nix, J. E. Knighton and F. R. Gomila.

Committee on Medical Defense—Dr. L. R. DeBuys, chairman; Drs. J. P. O'Hara and J. E. Knighton.

Committee on Health and Public Instruction— Drs. G. Farrar Patton, J. Geo. Dempsey and B. A. Ledbetter, New Orleans.

Committee on Cancer Research—Drs. C. Jeff Miller and Isadore Dyer, New Orleans. and W. D. Roussel, Patterson.

Committee on Hospitals—Drs. Isadore Dyer, E. L. Leckert and J. P. O'Kelley, New Orleans.

Names To Be Presented to the Governor, From Which to Select One as Member of the Board of Medical Examiners—Dr. E. L. Leckert, Dr. J. A. Henderson.

Delegate to the American Medical Association—Dr. W. H. Seemann.

The next annual meeting will be held in Alexandria.

LIFE INSURANCE COURSE IN MEDICAL COLLEGES—At a meeting of the medical section of the American Life Convention held in Birmingham March 2, 1916, the folowing resolutions were adopted:

"Resolved, That it is the belief of the members of the medical section of the American Life Convention that a brief, practical course in life insurance should be added to the curricula of medical colleges;

"Resolved, Further, That a copy of this resolution be transmitted to each of the medical colleges for their consideration and action."

The Tulane School of Medicine has been given such courses for the past five years.

LOUISIANA STATE BOARD OF MEDICAL EXAMINERS—The next examination of the Louisiana State Board of Medical Examiners will be held at Tulane University, 1551 Canal Street, New Orleans, June 8, 9, 10, 1916. The undergraduates will be examined on June 8 on the primary branches.

LEPROSARIUM BILL PASSES HOUSE—The House of Representatives on May 5 passed the bill providing for the care and treatment of persons afflicted with leprosy and preventing the spread of leprosy in the United States by the establishment of a national lepers' home. The bill, which has been favorably reported by the Senate committee on public health and national quarantine, is now on the Senate Calendar.

FIRST HAY FEVER ORDINANCE—New Orleans has the distinction of being the first city in America to enact a hay fever ordinance. The ordinance was passed by the New Orleans Commission Council through the joint efforts of the American Hay Fever Prevention Association, the City Board of Health, and the Department of Public Works. It is said that about 2 per

cent. of the population in many sections of the United States are afflicted with hay fever.

CONGRESS OF PHYSICIANS AND SURGEONS—The annual meeting of the Congress of Physicians and Surgeons was held on May 8, 9 and 10 in Washington, D. C. Much favorable comment was occasioned at the large number in attendance from the Tulane College of Medicine, most of whom addressed the congress. The New Orleans delegation consisted of Drs. J. D. Weis, I. I. Lemann, J. B. Elliott, Jr., S. K. Simon, W. W. Butterworth, H. D. Bruns, F. W. Parham, R. C. Lynch, J. B. Guthrie, W. H. Seemann, C. C. Bass, Ralph Hopkins, C. Jeff Miller, M. J. B. Couret, M. S. Souchon and Isadore Dyer. Dr. Seemann was elected to membership in the American Society of Tropical Medicine. Dr. Bass was made a member of the Society of American Physicians and Dr. Miller was made a member of the American Gynecological Association.

PERSONALS—Dr. W. S. Elkin, dean of the Atlanta College of Medicine, and Dr. S. R. Roberts, professor of medicine, were in New Orleans on a brief visit of inspection of the equipment of Tulane University during the past month, as a part of the consideration of the new buildings of the Atlanta Medical College.

Dr. Chas. Chassaignac, dean of the Graduate School of Medicine, Tulane University of Louisiana, and Dr. J. T. Halsey, of the Tulane School of Medicine, attended the meeting of the Mississippi State Medical Association in Greenville and read papers before that body.

Among the doctors from New Orleans who attended the meeting of the Texas State Medical Association in Galveston were: Drs. W. D. Phillips, John Smyth, S. M. D. Clark, Amedee Granger, and E. A. Robin.

Dr. Isadore Dyer lectured before the St. Louis (Missouri) Medical Society on May 13 and was elected an honorary member of that body.

At the last meeting of the Texas Roentgen Society, held at Galveston, May 8, Dr. Amedee Granger, assistant professor of radiology, Tulane School of Medicine, was elected to honorary membership.

REMOVALS—Dr. C. B. Alexander, from Alhambra, to Downey, Cal.

Dr. J. W. Watson, from Brittany, to Baton Rouge, La.

Book Reviews and Notices

A Treatise on the Principles and Practice of Medicine, by Arthur R. Edwards, A. M., M. D., 3rd Edition, 1020 pp, 80 Engravings and 28 plates. Lea & Febiger, Philadelphia, 1916.

Edwards' text book is well balanced and modern. It is concise even to the point at times of making the sentences epigrammatic, and yet no impression of abruptness or choppiness is given. One feels the author's constant desire to pack into his paragraphs as much information as possible at the expense of fluency and style. The field of medicine is so vast that if the attempt is made to be successful to set forth adequately within the limits of a single volume what the student may reasonably be expected to know, the author must necessarily cultivate succinctness. Edwards has succeeded well in this as well as in giving a sufficiently decided personal flavor by the expression of his views so that his book is no mere compendium, but readable and enjoyable. It will serve well as a basis for a quiz course, and as a handy reference volume. Special mention and commendation should be made of the satisfactory discussion of therapy, which has not been crowded into the background by the description of pathology and symptomatology. One notes here and there, of course, as in any volume of this scope, the retention of old views which have recently been vigorously attacked and disproven. Such for example is the great praise awarded strychnin as a vasomotor tonic in the routine treatment of pneumonia (p. 76). The work of Newbergh and others has pretty well shown the futility of strychnin in acute infectious diseases. We note, too, with some surprise, the author's vigorous opposition to the intravenous use of salvarsan and his recommendation that if used at all it should be given intramuscularly (p. 229). A curious statement is that in diabetes "the blood sugar rises to 0.1, to 1.6 per cent," (p. 727). The first limit named is not above nor even up to high normal; the latter is very evidently a misprint. Even when corrected to read 0.16 it would still be open to the objection that it understates the limits to which the hyperglykemia may rise. In a book bearing the imprint 1916 we might have expected some reference to the fasting method of treating diabetes.

ISAAC IVAN LEMANN.

Principles and Practice of Physical Diagnosis, by John C. DaCosta, Jr., M. D. Third Edition, thoroughly revised. Octavo of 589 pages with 342 original illustrations. W. B. Saunders Co., Philadelphia and London.

Increasing familiarity with the new edition of DaCosta brings increasing admiration for it. It is the product of one who has put into it the ripe experience of observation and teaching. The text book not only presents all that is newest and best substantiated, but it brings all of this in conformity and correlation with the findings

of the classic authorities on physical diagnosis. There has been no striving after radical rearrangements in classification, no adoption of confusing terminology. The teachings and nomenclature of Laennec, Auenbruegger and Skoda are largely adhered to, and when they are departed from the correlating between new and old leaves no confusion. The numerous references to the original sources gives the student a historical perception of the development of the art and stimulates the more advanced to a study of those sources. The illustrations have been well chosen and are more than usually helpful.

LEMANN.

Starvation (Allen) Treatment of Diabetes With a Series of Graduated Diets, Hill and Eckman. Second Edition. W. M. Leonard, Boston, 1916.

The first edition of this booklet was reviewed in these columns a few months ago. The new edition contains considerable additional matter, which decidedly adds to its value. It will undoubtedly be of assistance to one trying to learn how to carry out the much discussed and undoubtedly very valuable Allen treatment. In the reviewer's opinion this book still lacks one very essential thing, namely a good, but not necessarily long discussion, or resume of the underlying principles of this treatment, and of the various factors, which will call for more or less pronounced deviation from a stereotyped treatment. He hopes this edition will soon be exhausted, and that its successor will contain such an addition. Then, in his opinion, the book will prove of very real assistance to the practicing physician.

J. T. HALSEY.

Manual of Vital Functional Testing Methods and their Interpretation, by Wilfred M. Barton, M. D., Boston; Richard G. Badger, Toronto; the Copp, Clark Co. Ltd.

Dr. Barton has placed us under a debt of gratitude, and has accomplished a task worth doing in assembling in one small volume practically all the methods of testing vital functions, which otherwise are available only as they have appeared widely scattered throughout the literature. This portion of the work appears to have been done thoroughly and well. While his own or quoted interpretations of the significance or value of the results obtained are good and well chosen, the reviewer would have liked the book better and believes it would have been of more value, had this portion of the text been very considerably expanded. The reader, already familiar with these tests and the literature bearing on them, may find these comments sufficient, but one less well informed will be often left in doubt as to what he is to conclude from the too often too brief interpretations.

J. T. H.

Medical Practice Based on the Principles and Therapeutic Applications of the Physical Modes and Methods of Treatment, by Otto Juetter, A. M., Sc. M., Ph. D., M. D. Al L. Chattertop Co., New York.

This book has decidedly disappointed the reviewer, for its title had led him to hope that it would be one of which he could approve, and which he could heartily commend. Perhaps one or two quotations will show why he cannot do so. "Appendicitis is only exceptionally a surgical disease * * * The many tales that are told about the appendix sloughing or filled with pus, are too manifestly absurd and sensational to merit any serious attention." Under the treatment of syphilis we read, "The patient is put on dry carbo-hydrate diet, consisting principally of stale bread, rice and some fresh fruit. Every other day a glass of cider is allowed." "The effects of this dry diet is a veritable revolution in the metabolic function of the organism." (In my patients it would cause not a revolution, but a rebellion.) "The external evidences of syphilis are in no way interfered with." After further details of "eliminative treatment" have been given, there follows—"it is a most severe ordeal for the patient while its rationale and its results are unquestioned." With the first portion of this last citation the reviewer agrees.

We believe that any author capable of making such statements as are quoted above is not the Moses we have been looking for to lead us out of the wilderness of inefficient therapy.

J. T. H.

A Text-Book of Chemistry and Chemical Uranalysis for Nurses, by Harold L. Amoss, S. B., S. M., M. D., Dr. P. H. Lea & Fibiger, Philadelphia and New York, 1915.

We would conclude from our knowledge of nurses, not only here, but in some Northern and Eastern communities, that much of the chemistry contained in this book strikes well over their heads. Further, we might add that for the present, at least, it is hardly possible for the average nurse to profit by the manner in which the subject matter is treated. To be specific, we might mention, for example, the treatment of amino-acids on page 204, and Diazoniam Compounds on page 211. We do know that the educational foundation of the large percentage of women entering upon the nurse's calling will not permit them to grasp the subject as here presented. And, is it really necessary that they should do so? We think their time can be better employed. STORCK.

A Compend of Medical Chemistry, Inorganic and Organic, including Urinary Analysis, by Henry Liffmann, A. M., M. D. Sixth Edition, revise. P. Blakiston's Son & Co., Philadelphia.

The reviewer is among those who think that an adequate compend of medical chemistry is a valuable supplemental aid to the student's note book. Leffmann's treatise is such a book. The author has carefully revised this, the sixth edition, which brings information abreast of present-day knowledge. STORCK.

What to Eat, and Why, by G. Carroll Smith, M. D. W. B. Saunders Company, Philadelphia and London, 1915.

We are struck at once by the practical nature of Dr. Smith's book. The desire of the author is to place before the medical student, and particularly the active, busy practitioner a book describing the fundamental elements of food and the principles underlying its use. The facts brought out are lucidly and concisely presented. A long experience and careful practice has taught Dr. Smith the "why" in prescribing a diet. How much protein to give, and the proportion of fat and carbohydrates necessary are the chief questions to be considered in arranging a proper diet for a patient, and Dr. Smith has successfully endeavored to make this plain. If the profession would devote more time to proper dietetic studies than is done at the present, remembering at all times that the practice of medicine is something more than the mere act of drug-giving, we shall have made a great advance in placing medicine on a rapidly ascending plane.

STORCK.

The Aftermath of Battle, With the Red Cross in France, by Edward D. Toland, with a preface by Owen Wister. The McMillorn Co., New York, 1916.

This is an unvarnished tale, taken from the diary of a volunteer American worker in the Red Cross, engaged in relieving some of the suffering caused by the most colossal war in all history. Like most narratives that deal with stirring scenes, it needs no embellishment to make it thrilling, for the simple recital of a great event is an effective way of bringing to the hearts and minds of the readers a faithful picture of the events portrayed. In the present war, from which we are happily delivered, acts of heroism are so common that they cease to excite comment. The Red Cross is doing noble work at the very fringe of the battlefield and in hospitals, and Mr. Toland's little book carries us to scenes of actual war—aeroplanes, exploding shells, trains loaded with bleeding and dead humanity—and from there to the quiet hospitals where kind hands minister to the sad wreckage of the Great Convulsion. This booklet brings us behind the scenes, and shows us war without the glamor.

A.McSHANE.

Bacteriology for Nurses, by Harry W. Carey, M. D. F. A. Davis Company, Philadelphia and London.

The basis of the book is the lecture notes used by the author in teaching nurses at the Samaritan Hospital Training School. The subject is presented in a simple way, easily understood. A brief discussion of infection and immunity is included. This work will be found very useful for the purpose for which it is intended.

C. C. BASS.

Publications Received

W. B. SAUNDERS COMPANY, Philadelphia and London, 1916.

The Clinics of John B. Murphy, M. D. Mercy Hospital, Chicago, April, 1916.

P. BLAKISTON'S SON & COMPANY. Philadelphia, 1916.

Surgery in War, by Alfred J. Hull, F. R. C. S., with a preface by Sir Alfred Keogh, K. C. B., M. D.

Refraction of the Human Eye and Methods of Estimating the Refraction, by James Thorington, A. M., M. D.

A Manual of Gynecology and Pelvic Surgery, by Roland E. Skeel, A. M., M. S., M. D.

THE YEAR BOOK PUBLISHERS. Chicago, 1916.

The Practical Medicine Series. Volume 1; General Medicine. Edited by Frank Billings, M. D.

LEA & FEBIGER. Philadelphia and New York.

Elementary Bacteriology and Protozoology, by Herbert Fox, M. D. Second edition, revised and enlarged.

WASHINGTON GOVERNMENT PRINTING OFFICE. Washington, D. C., 1916.

Public Health Reports. Volume 31, Numbers 14, 15, 16 and 17.

Report of the Department of Health of the Panama Canal. February, 1916.

The Transmission of Disease by Flies, by Ernest A. Sweet.

MISCELLANEOUS:

First Annual Report of the National Committee for the Prevention of Blindness. (National Committtee for the Prevention of Blindness, 130 East 22nd St., New York City.)

Proceedings of the Medical Association of the Isthmian Canal Zone. October, 1914, to March, 1915. Vol. VII, Part 2. (Panama Canal Press, Mount Hope, C. Z., 1916).

Quarterly Bulletin of the Louisiana State Board of Health. Vol. VII, New Orleans, March, 1916.

The Institution Quarterly. An Official Organ of the Public Charity Service of Illinois. March 31, 1916.

The Anti-Prohibition Manual (1916). (Published by the Publicity Department of the National Wholesale Liquor Dealers' Association of America, Cincinnati, Ohio).

The Mortality from Cancer Throughout the World, by Frederick L. Hoffmann, LL. D., F. S. S., F. A. S. A. (The Prudential Press, Newark, N. J., 1915).

Motion Study for the Crippled Soldier, by Frank B. Gilbreth. (The American Society of Mechanical Engineers, New York City).

Reprints

Use and Abuse of the Rice Diet, by L. Duncan Bulkley, A. M., M. D.

Conservation of Vision and Prevention of Blindness, by G. E. de Schweinitz, M. D.

MORTUARY REPORT OF NEW ORLEANS.

Computed from the Monthly Report of the Board of Health of the City of New Orleans for April, 1916.

Cause.	White	Colored	Total
Typhoid Fever	2	1	3
Intermittent Fever (Malarial Cachexia)	.....	1	1
Smallpox	.....	.....	....
Measles	.....	.....	....
Scarlet Fever	.....	.....	....
Whooping Cough	2	.....	2
Diphtheria and Croup	1	.....	1
Influenza	5	3	8
Cholera Nostras	....	.....	....
Pyemia and Septicemia	2	.....	2
Tuberculosis	33	46	79
Syphilis	1	4	5
Cancer	21	9	30
Rheumatism and Gout	.....	.....	....
Diabetes	4	1	5
Alcoholism	.....	.....	....
Encephalitis and Meningitis	3	.....	3
Locomotor Ataxia	1	.....	1
Congestion, Hemorrhage and Softening of Brain	12	6	18
Paralysis	4	2	6
Convulsions of Infancy	1	.....	1
Other Diseases of Infancy	7	10	17
Tetanus	.....	1	1
Other Nervous Diseases	5	1	6
Heart Diseases	41	32	73
Bronchitis	1	6	7
Pneumonia and Broncho-Pneumonia	9	21	30
Other Respiratory Diseases	9	.....	9
Ulcer of Stomach	1	2	3
Other Diseases of the Stomach	1	.....	1
Diarrhea, Dysentery and Enteritis	18	12	30
Hernia, Intestinal Obstruction	4	.....	4
Cirrhosis of Liver	8	4	12
Other Diseases of the Liver	5	.....	5
Simple Peritonitis	....	.....	....
Appendicitis	3	1	4
Bright's Disease	26	14	40
Other Genito-Urinary Diseases	11	5	16
Puerperal Diseases	7	5	12
Senile Debility	.....	.....	....
Suicide	6	.....	6
Injuries	26	17	43
All Other Causes	18	9	27
Total	298	213	511

Still-born Children—White, 18; colored, 24. Total, 42.

Population of City (estimated)—White, 276,000; colored, 102,000. Total, 378,000.

Death Rate per 1000 per Annum for Month—White, 12.96; colored, 25.06; total, 16.22. Non-residents excluded, 13.94.

METEOROLOGIC SUMMARY (U. S. Weather Bureau).

Mean atmospheric pressure 30.02
Mean temperature ..... 68.
Total precipitation ..... 2.55 inches
Prevailing direction of wind, south.

End